

A JOURNEY TO THE WATCHFUL CENTRES

Walking into the computerized tomography service of the Gheorghe Marinescu Hospital in Bucharest, through a bridge flanked by immense, panoramic windows through which I could see the snow gently covering the earth, I found myself in a spaceship. The building is round, the corridors arranged in a circle, the rooms as a honeycomb, the light is filtered by walls with glass scuttles like microscope lenses. The greenhouse, conditioned air, kept at a temperature of 18-23°C, is fit for growing imperial red cyclamens in pots even during freakish winter.

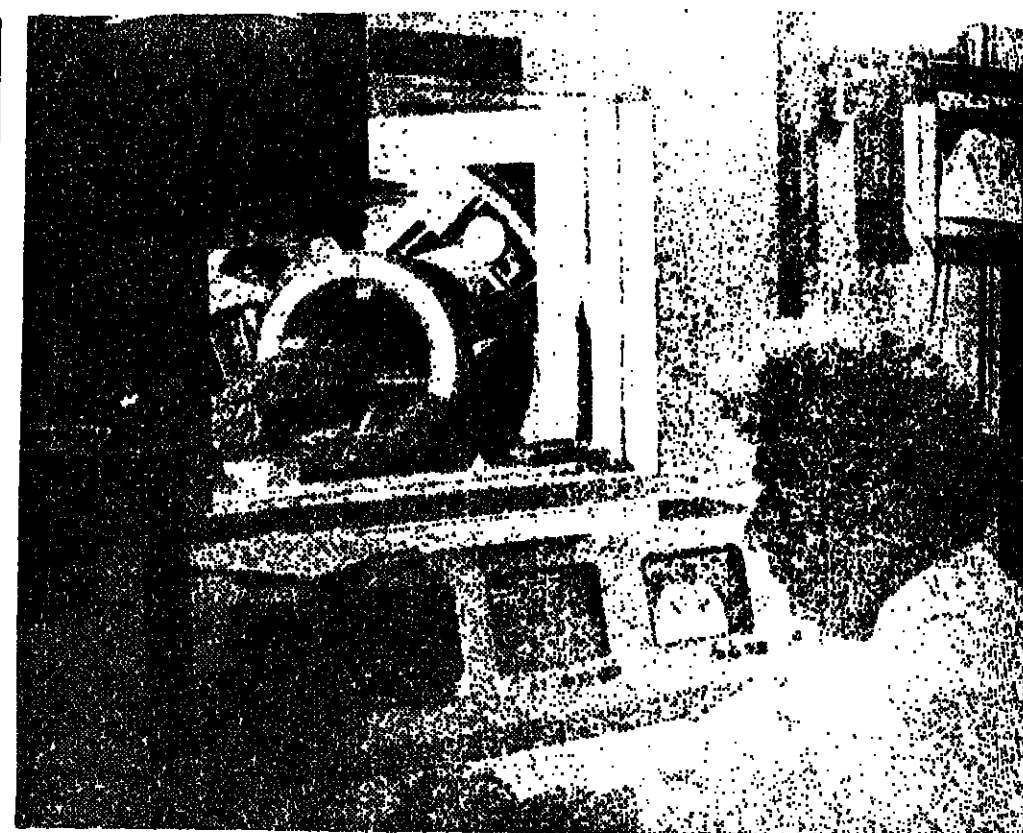
this week's reportage

I had the sensation that I was in a fully automated plant, supervised by a few specialists led by doctor Nicolae Simionescu. I therefore passed through the technical compartment with the high frequency generators, I took in the complex cooling circuits in a cubeweb arrangement, the space covered by the computers with thousands of transistorized boards and magic lights, and discovered the room where video recordings are evaluated, containing the floppy discs where the memory of the investigations is stored. I stopped briefly in front of the console where the discs are examined — the film archives where the physicians can rerun a special programme of in-depth investigations — I looked into the oncological radiotherapy planning department, and I passed in the examination compartment, where the direct dialogue between the physician and the patient takes place, then in the point of contact with the patient takes place, that is, in the outpatient of the most thorough explorations of the human brain, conducted on an artificial brain which recomposes our anatomical universe.

The atmosphere of the testing console, with control panels full of keys and beepers, monitors and an amplifier, resembles that of a space shuttle. The

only difference is that here and now we shall embark upon a journey to the microcosm of the human brain. A fascinating black-and-white trip in 2,021 number values which can be assigned to gray steps, through arid landscapes or strained areas covered by the 40 billion cells making up the gray matter, to the either watchful or dormant centre of existence, the epicentre of the interior storms of conscience, to the hearth of reason.

Doctor Nicolae Simionescu, a specialist in neuroradiology, member of the International Society of Neuroradiology based in Brussels, heads this expedition remarking the brain's matrix digital image from the control panel, through a beam of x-rays, with the help of 256 over sensitive detectors. The image, reconstituted on monitors is composed of several transverse sections of the brain, controlled by "special resolution" and by a circular analysis of the head skull. Thus, the tomograph helps us complete not only a journey around the head, similar to those experienced while reading fiction, but also a deep-going one, inside the skull, where old and conventional radiograms and penetrations through unidimensional, unclear images, already considered by experts as "herbarium" samples.



A routine check takes nine axial sections but a careful doctor, sensitive to grey hues, to changes of contour, can order the computer to produce microscopic images, details, as if following the procedure of a work of art study, creeping inside the cerebral hemispheres with delicate manoeuvres, reaching the most intimate zones of the superiorly organized matter, within the most sophisticated logical and mathematical structures which control our entire activity of adaptability to environment. Beyond the instrument, beyond the panel stuffed with keys and monitors operating in "broad daylight" (avoiding thus the darkness of the x-ray apparatus and accommodation of the eye with the image), lies the patient, exposed to all kinds of electronic sensors surrounding his head like a belt of beams rotating at an angle of 300 degrees and recording the activity of his brain in conditions of comfort and quiet. The radiations, focusing on the patient who is separated from the doctor by a plexiglass screen, do not exceed the amount of roentgen units usually needed for two ordinary radiograms. Besides, they do not involve further, more complicated and therefore more dangerous operations required by conventional investigations with beams of air or noxious contrast substances.

It so happens that the patient now subject to the concentric fire of beams and detectors has suffered from serious internal

lesions, cerebral hemorrhage and coma. Investigations are being stepped up because in such cases there is not much time left and an accurate diagnosis has to be established for an emergency operation.

Doctor Nicolae Simionescu efficiently handles the equipment, concentrated, revealing the image of the exposed brain through multi-phase reconstructions at other levels, at distances of just a few millimetres, advancing step by step toward the key spoke. The slices are rapidly scanned and we have the feeling we are entering the clouds. The first pathological signs appear, dark, diffuse spots, the images dilate and the doctor leaves the general plane and penetrates well defined details divided in small kernels, until the proportions of the cerebral vascular accident are precisely localized on the monitor. All data are immediately filed and stored together with the film diagnosis of the neuroradiologist and the clear delimitation of the area to be operated upon. The investigation lasts three minutes. The patient is freed from the detector belt and quickly taken to the operating room. Looking at the chart that exactly reproduces the lesions and affected parts of the brain, the surgeon knows precisely not only the diagnosis but also the dimensions of the hemorrhage and all physiological consequences coming from it. Thus, in a few minutes, a man wounded during a traffic accident in a Bue-

ADRIAN DOBOTARIU

150 YEARS OF ROMANIAN PSYCHIATRY

A jubilee scientific session entitled "150 Years of Romanian Psychiatry" was held in Bucharest, under the aegis of the Union of Medical Sciences Societies, between December 9 and 11. Over 800 participants from every corner of the country (psychiatrists, neurologists, endocrinologists, psychologists and presented scientific papers and reports, evoking the road covered by the national school of psychiatry between December 1838 and December 1988. One century and a half ago Bucharest saw the birth of the first psychiatric establishment called Mărcuța. The history of this medical discipline accounts also for the emergence of similar hospitals, such as that of Sibiu (set up in 1860), those of Iasi, Tirgu Mures, Cluj and Craiova, all of them founded in the 19th century.

Evoked were also the outstanding personalities of a whole series of Romanian psychiatrists of world and European fame, including Alexandru Săftu, Alexandru Brătescu, Constantin Treche, Gheorghe Marinescu, etc.

Lectures on psychiatric therapy and research, an education and publications specific to this medical discipline were followed by ample expositions on the contribution of the contemporary Romanian doctors to upgrading the medical institutions where the profoundly human concern for the treatment of mental diseases manifests not only as a profession, but also as a state of mind.

POWER CONTROL

The Enterprises for Electrical Measuring Instruments in Timisoara has designed and manufactured a sophisticated system for controlling electricity consumption in big industrial consumers of a group. This unit, fitted with a PLC microcomputer, the system supervises up to 100 electric motors, pumps, fans, etc. from the energy consumption point of

view. Fast variations of the consumption, detection of overvoltage or undervoltage, and abnormal temperature for their operation are detected. The data collected are stored in a memory and can be printed out on a computer terminal. The system also allows the user to set up a schedule for the operation of the motors, pumps, fans, etc. from the energy consumption point of

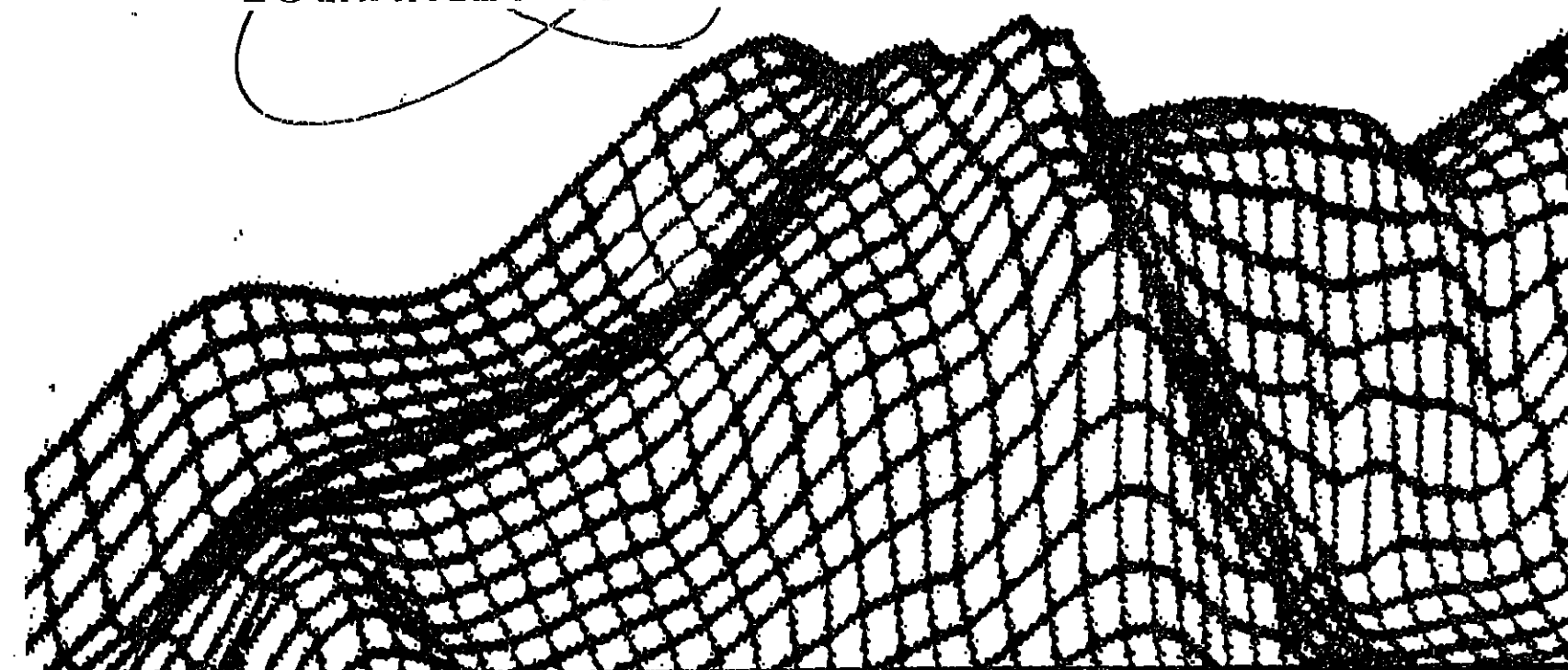
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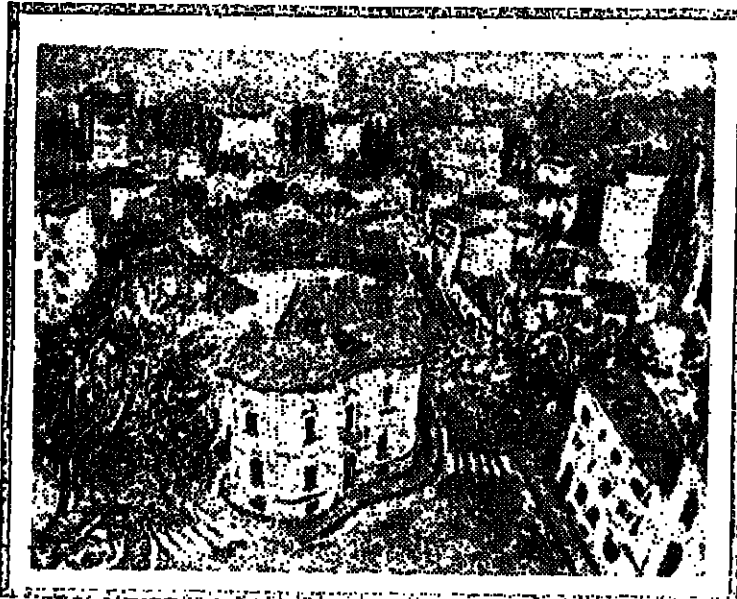
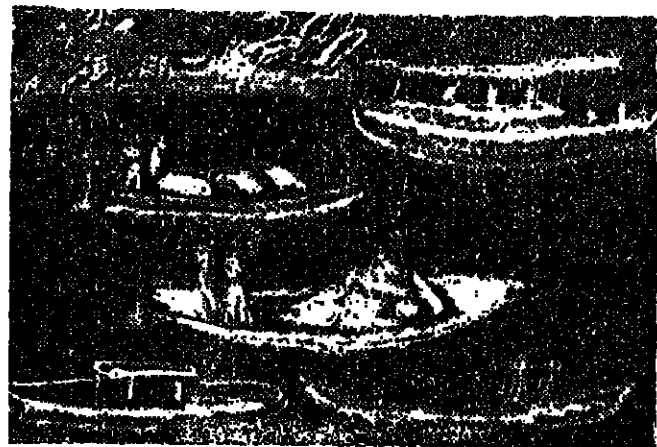


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The identity between work of art and man was seldom affirmed as in the case of Dragoș Morărescu (b. 1924, in Ilfov). A graduate of the Fine Arts Faculty and of the Faculty of Architecture, continuously experimenting intensely, experiencing the artistic phenomenon, he has never had enough time to filter and explain his liberating projection upon nature. He always seems to be caught in the act of conveying the feelings aroused by nature to the canvas or paper. He is a complex artist, whose originality in art is amazing, as he does not belong to any tendency. In the context of contemporary Romanian graphic art, during over 40 years of activity, he has asserted himself as an architect, decorator, sculptor, engraver and illustrator, poet and art history researcher.

He is an artist animated by the spirit of creating, discovering and innovating of conceiving his experiences in metaphors of reality taken from known places. In the country (scenography, images from Bucharest, Comănău, Sibiu, Brașov, Sibiu, Ucea de Jos) or from various travels (Vienna, Stuttgart, Vukov, Venice). In general, his paintings are true to life, without copying nature, following only its essence, sense, charm, high artistic expression, using in this respect, imagined, vivid colours, with their whole exuberance and musicality. Certain landscapes have a calm, lyrical atmosphere, others are dramatized by their low or sickling hues.

Stimulated by an insatiable demon, Dragoș Morărescu perceives the outside world with extraordinary vehemence. In each tree, flower, street or portrait, he discovers life, which he represents by distorting its shapes, re-building it, or its appearance. Under his eyes, the red becomes fire red, the green — spring time green, the yellow turns into sun rays. Morărescu participates in the movement of clouds, of fields, of waters; nature is a repertoire of sad or exuberant attractions. Thus his own theory on painting combines and creates a long series of self-standing cycles: "Autobiographical Mythologies", "Landscapes" and "Romanian Themes", "The Metamorphosis of Forms", "Aspects of Yesterday and Today".

A complex and meticulous poetical spirit, compelling you to mentally reconstruct an image, characterizes Dragoș Morărescu's work in general.

MIRCEA DRAG

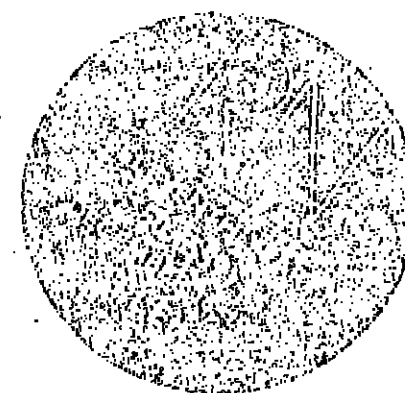


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ROMANIAN NEWS



UNDER DISCUSSION — AGRICULTURAL QUESTIONS

NICOLAE CEAUȘESCU'S SPEECH

AT THE ENLARGED PLENUM OF THE NATIONAL COUNCIL OF AGRICULTURE, FOOD INDUSTRY, SYLVICULTURE AND WATER MANAGEMENT



In his speech made on Friday, December 18, at the Enlarged Plenum of the National Council of Agriculture, Food Industry, Sylviculture and Water Management, President Nicolae Ceaușescu stressed that the plenum made a thorough analysis of the results scored this year and the objectives of the plan and programmes for 1959, with a view to increasing the farm output, the production of the food industry, sylviculture and water management, so as to raise their contribution to the general development of the country, to improve the entire people's material and cultural welfare and to carry through unflinchingly the Party's Programme of building the multi-laterally developed socialist society and Romania's advancing towards communism.

The broad debates which lasted two days, the critical and self-critical analysis of the results achieved so far, the proposals forwarded and pledged by everyone — the fact that 200 participants took the floor during the proceedings of the National Council of Agriculture — proves both the broad democratic character of the discussions and the seriousness with which problems relating to these sectors of activity are raised.

On the basis of these broad debates all conclusions and lessons will have to be drawn with a view to improving the whole activity and fulfilling tasks of great importance for the country's overall development, for the expansion of agriculture and the implementation of the new agrarian revolution.

In the years of socialism, alongside the general development of the production forces, of industry and of the other branches of activity, agriculture — in fact the second basic branch of our economy — has undergone a powerful development, too.

Especially after the Ninth Party Congress a better understanding has been ensured and to a certain extent, the truth has been re-established concerning the important role developing on agriculture in the development of the Romanian economy. Industry has to play the decisive role in the development of the national economy, however, without neglecting or underestimating the role of agriculture — without which one cannot speak about a balanced development of the national economy.

It is necessary for us to ensure a healthy development of industry and agriculture — as a matter of fact of all branches

and sectors of activity. Any shortcoming in one sector or another, but mostly in these two decisive sectors, will bear negatively on the whole development.

It is necessary for us permanently to start from the fact that industrialization based on the latest gains of science cannot be achieved unless a continuous progress is ensured for agriculture — as one of the main branches of the Romanian economy. The same as we must underline that the progress and development of agriculture is not possible without a strong industry.

To this we should add permanently the important role played by science, education and culture, as fundamental factors of the homeland's thriving and of socialist construction and, therefore, the necessity of relying our entire activity in all fields on the latest gains of science and technology.

Life — the supreme judge of any activity — has fully proved the rightness of the general policy pursued by our party in applying the objective laws, the principles of scientific socialism to the realities and conditions specific of our homeland. Further on, President Nicolae Ceaușescu said that the rightness was proved, of

the theses formulated as early as the Ninth Congress that socialism is achieved in conditions varying from one country to another, from one stage to another, and that the communist party, as the leading political force, has the historic mission of ensuring the understanding of these laws but also of the realities existing in our homeland, as well as their application in the best possible conditions. Our achievements scored in the general development — therefore in agriculture too — prove the justness of this policy and of this path.

The state and cooperative socialist agriculture is the decisive factor in obtaining good crops in all fields. In increasing the farm output permanently and carrying through the new agrarian revolution, our achievements recorded in agriculture in the years of socialism, especially after the Ninth Congress, demonstrate that only the large state and cooperative socialist ownership allows us to produce a modern, advanced agriculture able to fully meet the needs of our people, to ensure our welfare and the growth of agriculture's contribution to Romania's general progress.

The programmatic theses and the conclusions of the great democratic forum at the end of November must be for the working people of the village, for the whole agriculture the basic guidelines for the improvement and better organization of the entire performance, for raising agriculture on a constantly higher level. Meeting the requirements of the new agrarian revolution presupposes an increasingly better crop, but also a higher material and cultural living standard, a closer level between the conditions of work and life in villages and those in towns and the creation of a united society of working people.

Showing that we are at the end of the third year of the 1956-1959 quinquennium, President Nicolae Ceaușescu said that in general we have good results. Although below the plan provisions.

As far as agriculture is concerned, a series of good results have been obtained in increasing the farm output. This year, therefore, the third in a row, we obtained a cereal crop exceeding 20 million tons. Over 250 state and cooperative units scored record crops of over 8,000 kg of wheat and barley and of over 30,000 kg of corn per hectare. Large crops

(cont. on p. 3)

NICOLAE CEAUȘESCU MEETS WITH YASSER ARAFAT THE PALESTINIAN PREMIER

AN INTERVIEW GRANTED BY NICOLAE CEAUȘESCU

...the progress of the agrarian revolution... the progress of the agrarian revolution... the progress of the agrarian revolution...

On December 7, President Nicolae Ceaușescu granted an interview to Nicholas Rothwell, special envoy of The Australian daily. We present you the main ideas of the interview which has been just released.

Referring to Romania's main home concerns, President Nicolae Ceaușescu said: "Only a few days ago a survey of Romania's activity on the road of socialist development was made by our democratic bodies. We assessed as remarkable our achievements in the development of the forces of production — industry, agriculture, science, education, culture — and with this as a basis, in the improvement of the people's material and spiritual living standard."

Romanian industry, for instance, produces over 120 times as much as in 1945, and agriculture eight times as much. We have created a modern industry on the basis of the temporary advances in technology and science. Romanian industry manufactures machines and equipment for virtually all domains that are competitive by international standards.

With this as a basis we have planned to lay stress on intensive development, on improving the quality and performance of production in keeping with the latest gains of science. We wish that Romanian industry be abreast of the world's best achievements, hence our emphasis on scientific research and development activities, on putting to production the latest achievements in these fields. It is obvious that all this is aimed at the general development, a higher standard of civilization and well-being for all people, and at the same time a broad international cooperation. In this context, I repeat, we would like our relations with Australia to be an important factor in future.

Concomitantly with the general development of the forces of production we have implemented a vast construction program of housing, as well as production, health, culture and other projects. As a matter of fact, any visitor of Romania can see that our towns look almost new. We had to do it because in the past housing was poor and could hardly meet modern requirements. At the same time, the urban population has increased tremendously. This is the explanation of the fact that today roughly 80 per cent of the urban population lives in new homes. We intend to virtually solve the housing problem in towns until 1985.

In the meantime we have also been concerned with raising the living standard in villages. As agriculture and some industrial activities were developed, measures were taken to provide general social facilities which include schooling, health, culture and other basic public necessities. We have implemented many of these programs, but hardly reaching the scope of urban development. That is why we intend to pay greater attention in the period ahead to the resolution of these problems in every settlement as well, with a view to raising the living standard of the population of all citizens. We set from the fact that, eventually, the standard of living in towns and villages should differ as

little as possible and that, as far as such general needs as schooling, health care, culture, economic questions are concerned, the conditions in villages should be virtually the same as those in towns. This will take some more time but we think that this is the only just way to give all people civilized and better living conditions from all points of view.

In this framework, we plan to build homes for the people working in these settlements, for workers, and little by little to make sure that villagers have

Romanian people's development. First of all, we greatly appreciate the people itself, because it is the deciding force, the true maker of history, of its life, of modern Romania today. That is why all we achieve is with the nation and for the nation, with the people and for the people!

We think highly of our past of fight, but I say again that we wish to learn from its lessons for the sake of our present and future. This makes us work for the continuous strengthening of Romania's independence and sovereignty, for the uninterrupted rise in our people's standards of general development, civilization and living.

Next, President Nicolae Ceaușescu outlined Romania's

In particular, we attach great importance to the resolution of the Middle East problems. We declare for an international conference, to be attended by all the countries concerned, by the U.N. too. We welcomed — and we recognize — the proclamation of the new independent Palestinian state. We favour a solution that would ensure the coexistence of both the Palestinian state and Israel, and lead to the establishment of cooperative ties between the two.

We pay special attention to the problems of the world economy, underdevelopment, the building of a new world economic order. Romania considers that the eradication of underdevelopment is a matter of vital importance for world de-

velopment, of the gains of science, of the development of culture, because no one will ever be able to say perfect solutions must always be taken to improve — as a matter of fact, a regular international conference, a longer time to pass before such improvements actually happened in the Soviet Union — which makes it highly important in the life of the respective country.

Their impact on the other European socialist countries depends on the activity of each country, of each party of the country. I should like to see again point out that we consider everyone should solve only problems independently, in line with the realities in the respective society and with its development level. At least, that is how Romania worked, works and will work in future as well.

What I mean is that, in any way or another, all measures aimed at improvement play a significant role as long as they develop the forces of production, the productive forces, and in conditions in place for the progress of society and contribute to a rise in the general standard of living. In this respect, we believe that the measure taken in the Soviet Union have and will have a great importance for the attainment of the targets the Soviet Union has set to itself.

Approaching the Romanian-Australian relationships, President Nicolae Ceaușescu said: "The official visit paid to Australia this year was a landmark in the relations between our two countries and opened the prospects of growing cooperation in the economy, in technology, science, culture and in international politics."

The visit, the talks and the understandings we made are still fresh in my memory. As a matter of fact, the economic exchanges between our two countries are twice as large as in 1985, and will be even larger. I am convinced that during the visit as well as the subsequent understandings, cooperation in various domains with different companies has been proposed for our common benefit. I am sure that the exchanges to double again at the end of 1986 — that is in the next two years. A good implementation of the accords previously concluded for cooperation in a long period of time — 10-15 years, which would result in a further growth of economic exchanges and in a more important role for both countries.

I would also like to say that our conclusions on major questions of the international relations were the same or very similar — that our two countries are equally interested in a new policy of disarmament, of nuclear disarmament in the first place, and of settlement of the complex economic problems, especially of those of underdevelopment.

In consideration of all this, I would like to say once again that we think the visit and the understandings opened the prospects to the cooperation between our countries, in the interest of the two peoples, of the cause of international peace and cooperation.

AN INTERVIEW GRANTED BY NICOLAE CEAUȘESCU

• A SURVEY OF ROMANIA'S ACTIVITY ON THE ROAD OF SOCIALIST DEVELOPMENT • HISTORICAL VALUES IN MODERN SOCIETY • MAJOR FOREIGN POLICY GUIDELINES • QUESTIONS OF SOCIALIST CONSTRUCTION

more comfortable and modern houses built for themselves. We have extensively debated these programmes across the country. As a matter of fact, they have been effective for some 20 years, but, as I said, urban centres were our priority, given the powerful growth of industry. Now we think conditions are in place to pay greater attention to the modernization and development of rural settlements. This will take the whole social development onto a higher level, raise the living and civilization standards of people, and be a decisive step forward to attaining our goals of building a socialist society that will give people the best living conditions, from all points of view.

Further on, approaching the role of traditions and historical values in the development of modern society, President Nicolae Ceaușescu said: "Recently, the democratic forum I referred to made a brief survey of the development of the Romanian people — there, of Romania, too — from the first centralized state of the Dacians, 2000 years ago, to date."

Romania and the Romanian people developed in difficult circumstances. A continuous fight against foreign domination, for independence, for the formation and safeguarding of the people's own being, of its language and culture was the salient feature of our history as a whole. And, it is with satisfaction that we must say that, notwithstanding those rough circumstances, the Romanian people was formed, that it developed its own language and culture, abolished foreign domination and secured its independent development.

That is why we greatly value every moment in the history of our homeland, the traditions, the personalities, and all who did their utmost for the

major foreign policy coordination. Romania has firmly been for a broad collaboration with all states, irrespective of their social systems. As a matter of fact, we have diplomatic and economic relations with 155 states. We have been very active in all international bodies in the world, whatever its size or social system, should contribute to the settlement of the complex issues of the international life, in the interest of each nation's economic and social progress.

Secondly, we are firmly for disarmament, for nuclear disarmament in the first place. We favour the complete elimination of nuclear weapons and the cessation of all nuclear tests, the renunciation of any action aimed at outer space militarization. In this respect, we attach great importance to the understandings between the Soviet Union and the USA on intermediate-range nuclear missiles. However, we think that that accord is just a step — a small step, for that matter — since the number of nuclear weapons in the world is still large.

Therefore, we take the view that with world peace of weapons and wars in the sight, all peoples should make greater efforts to eliminate nuclear weapons, to achieve conventional disarmament, to liquidate chemical arms, to cut back on military spending.

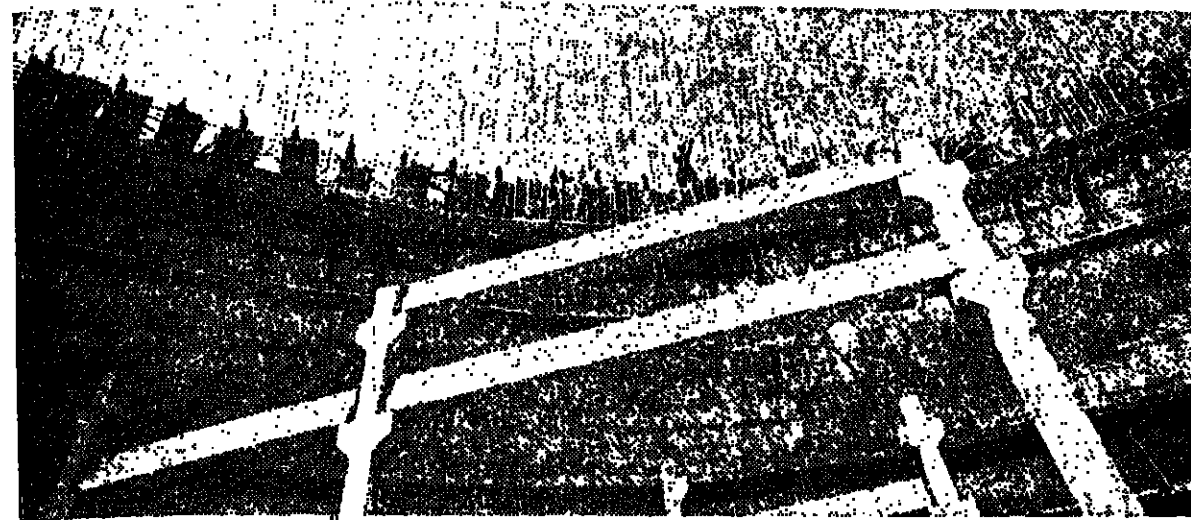
We are also for the settlement of all conflicts through negotiations alone, for the renunciation of the military way and the use and threat of force. That is why, we welcome the talks under way in various parts of the world aimed at a peaceful settlement of the known conflicts. I would not refer to again now.

development as a whole, for the establishment of relations of equal collaboration among all nations, for the building of a better and more just world. In our entire international activity we have always given prime place to the observance of the principles of full equality of rights, independence and sovereignty, non-interference in domestic affairs, the observance of each nation's right to choose its own development path as it wishes, free from outside interference.

We believe these are the issues of the present time and also of the future. They should be solved in the spirit of new thinking, of a new policy which, I say it again, should give all peoples an active part in the settlement of the complex issues of the international life, in the interest of each nation's international peace and collaboration.

Referring to the questions of socialist construction in various countries, President Nicolae Ceaușescu said: "Romania and the Romanian Communist Party have always taken the view that the problems regarding the development and improvement of activities in one country or another are internal problems that are related to the conditions and realities in each country. Therefore, the current concerns with improvement — or restructuring, as they call it in the Soviet Union — are the problems of the Socialist states, of the Communist Party, of the Soviet Union, to improve and develop Soviet socialist society."

In this respect, Romania took and takes action according to its realities, in the requirement for permanently adapting the forms of economic and political organization to the new realities which are a result of the growth of the forces of produc-



ANOTHER 100 GIGACALORIES

The second 100-gigacalorie hot water boiler has recently been put into operation at the Electric and Heating Plant in Timisoara, the biggest project of this millennium built in Timis county. The boiler's adjacent installations comprise four ventilating mills which pulverize the coal more efficiently and are simpler than classical hammer mills.

As a result, the new lignite-fueled plant, which is more economical, will become the largest supplier of thermal energy in Timisoara municipality instead of the old hydrocarbon-based plant. The heat generated by coal-burning will now increase from 30 per cent to 55-60 per cent. The Timisoara Electric and Heating Plant which, besides the two hot water boilers of 100 gigacalories each will also have three technological steam boilers of 100 t/h each and two power generating units with a total capacity of 300 MW, will eventually integrate power consumption needs of Timis county. (Photo left)

UNIVERSITY SCIENTIFIC AGENDA

A few scientific events are scheduled for December, organized by higher education establishments. Thus, in Bucharest, the Polytechnic Institute organizes the seventh Conference of Machine-Tools. The meeting will tackle the problematique of increasing labour productivity and product quality. The Timisoara-based Traian V. Vlașcu Polytechnic will host a symposium dealing with "Computers and the Automated Control of Processes". A significant contribution to the flawless unfolding of the year is expected from the Polytechnic Institute in Bucharest, the University of Craiova, as well as informatics and automation research institutes.

Mention should be made of another two scientific events covering the field of medicine. The medicine and pharmacy institute in Iasi organizes a session of scientific papers regarding "The Prevention and Control of the Main Chronic Diseases" while the similar higher education establishment in Cluj-Napoca will host the symposium entitled "Trophic and Precocious Diagnosis for Communicable Diseases Contracted in the Prenatal Stage, During Childhood and Adolescence". University staff, students, other specialists of all Romanian medical university centres announced their participation in both events.

DOCTORAL DISSERTATIONS

31 doctoral dissertations have been registered at the Ghorghe Asachi Polytechnic Institute of Iasi. The doctoral candidates who have finished their activity in the institute — engineer Dimiter S. Bogdanov from Bulgaria, with his work entitled "Contributions to the Rationalization of Solar Devices", coordinated by professor Gerard d'Almon, D.Eng. To the same field refers the doctoral dissertation of engineer Hiyad Mahmoud Ibrahim Fadda, of Jordan, "Carlin's Physical-Mathematical Properties of Clay. Frequently Met in Jordan and the Appropriate Solutions of Foundations" (scientific coordinator: professor Tudor Siliu, D.Eng.). Engineer Von Hlong Sop (of the DPR of Korea) has prepared in Iasi — the only Romanian university centre specializing in this field — a dissertation tackling "Formal-metrical Leather Substrates Based on Polymerized Vinyl Chloride for Footwear", coordinated by associate professor Ghorghe Chiriac.

UNDERWATER FARMS

Researchers from the Salmon Research and Production Station (Patul-Blonz) conceived a new model of vivaria meant for the intensive growth of trout. Compared to the old type which floated on water, the new vivaria stand where water temperature favours an accelerated life cycle to trout. Avoiding winter cold and summer heat, these underwater farms will be able to produce 12 months per year.

The spectacular growth of fish production — owed to the new technology — will be also determined by the use of sul-generis food; piscicultural tablets. Elaborated according to a recipe of specialists at this station, the new food is made of animal and vegetal flour, completed with fodder additive and biological activators.

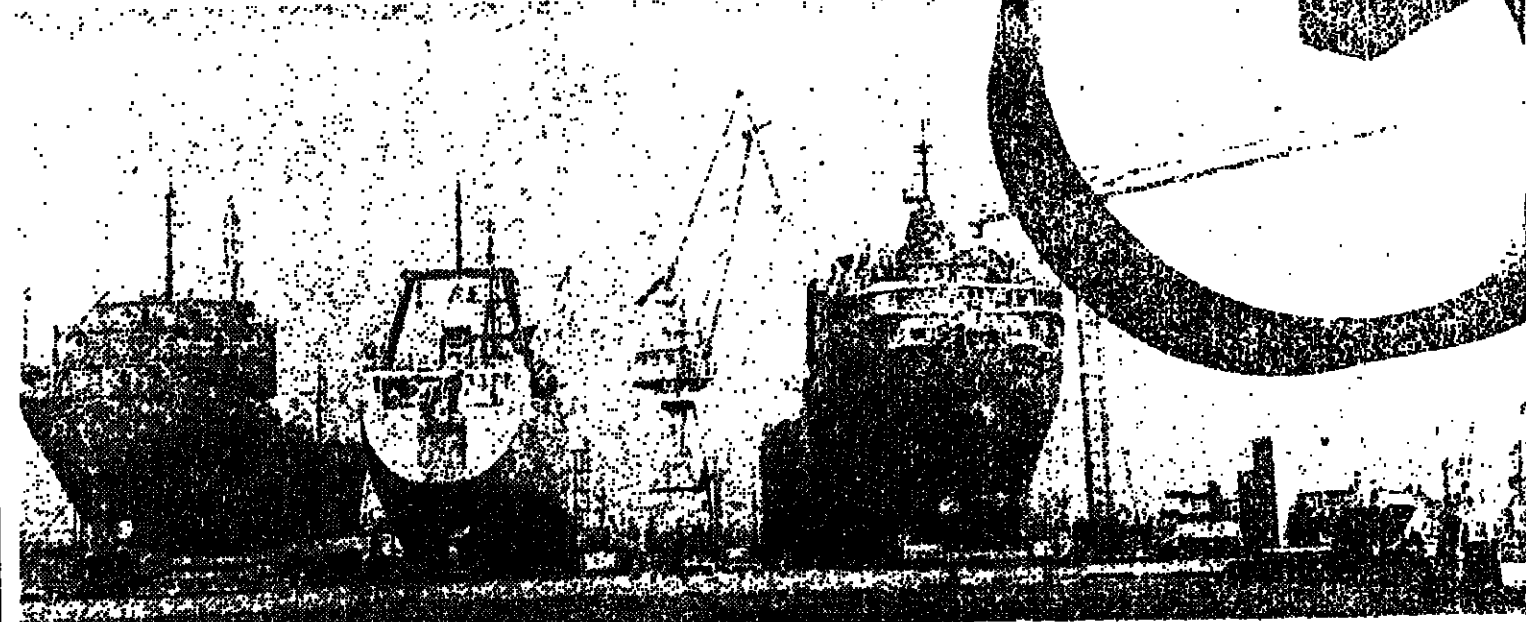


FOR DEEP DRILLING

A new deep drilling equipment designed by specialists of the Scientific Research and Technological Engineering Institute for Oil Equipment in Ploiesti was recently included on the fabrication list of Tirguvite Oil Equipment Enterprise.

The installation was conceived in two variants — with electric and Diesel operation — and can be transported in its blocks, which allows of a more rapid mounting and dismantling than the other installations with a hook load of 200 tons manufactured in Tirguvite. It can drill down to 5,000 m in low temperatures of minus 10 degrees Celsius.

The first lot of the series of new drilling installations will be delivered to foreign partners. (Photo left)



ANNIVERSARY

The neurology clinic in Tirgu Mures university centre headed by professor Dr. Liviu Popoviciu, marked these days ten years since the first quantum and computerized electroencephalograph investigations. In 1981, under the leadership of the Romanian scientist, the first computerized cortical mapping was achieved as a world first here, in collaboration with specialists from the territorial computer center in the locality. Mention should be also made of the Tirgu Mures clinic's achievements in long term polysomnographic investigations and recording (8 hours) with infrared video monitoring. Thus, computerized cortical mapping in various sleep stages, were obtained for the first time in Europe (Photo left).

LASER APPLICATIONS

Carbon dioxide laser was introduced in the installations of furniture enterprises in the country for the creation of wood inlays and for laser cutting of wood. Laser was also extended to the textile and garment, leather and shoe products industries where it simplifies and improves pattern cutting in more and multi-layers, eliminating a series of operations which required great effort. The author of this important adaptation to the light industry is the polytechnic institute in Bucharest.

SHIPS UNDER CONSTRUCTION

Currently in an advanced stage of assembly, at the Tulcea shipyard, are the "Instalator" and "Instalator" barges, etc. In their turn, the shipbuilders of the Drabeta-Rurnas Severin shipyard have completed a new ship to be built there. Being equipped with slow engines, which will account for a low fuel consumption, the ship is to undertake the first sea trials before the end of this month.

The same shipyard is working on the first 10,000 dwt cargo barge — "Stralung-Arge" — the biggest ship built at Tulcea so far. Also under construction there are other ships of various capacities and uses: fishing boats, river-going barges, etc.

In their turn, the shipbuilders of the Drabeta-Rurnas Severin shipyard have completed a new ship to be built there. Being equipped with slow engines, which will account for a low fuel consumption, the ship is to undertake the first sea trials before the end of this month.

BIOLOGICAL... GLASS

The Institute of research and design for the glassware and fine earthenware industry has taken the time to replace glass fibers with those of 15 microns, used in hydrofuge insulation, then with 5- and 15-micron-thick fibers for plastics wrapping, and of late it has passed to the production of microfibers of under one micron for the textures of filters in nuclear power stations, for microelectronic and medical uses. Lately, the enterprise manufactures filters turning the characteristics of artificial light into those of natural light (the light bulb takes over the properties of the sun). These filters retain the heat of luminous sources, microfibers of under one millimetre for dyestuff cleaning and heating for electroluminescent panels. At the same time special technologies have been designed for the production of foam glass an excellent thermal insulator and which insulates, as well as methods for obtaining non-conventional and biological porcelain for osseous implantations and transplants.

RAILROAD CONNECTION

A 35-km-long railroad has started to be built between Dingeni-Săveni-Darabani, connecting the north-eastern part of Botoș county (in north-eastern Romania) to the railroad network. The new line requires the construction of over 100 bridges and two viaducts and the execution of 15 million cu.m. of earthwork. The railroad will provide for the annual transportation of some 45 million passenger-km and nearly three million passenger-km, thus contributing to the reduction of the present transport expenses.

A BRIDGE OVER THE DANUBE

Near the Iron Gates II hydro-power station, a bridge is now being built over the Danube. Planned to connect the Ostrov Mare island with the Romanian bank of the river, the bridge will have a length of 240 m. It was designed and supported by the Romanian Ministry of Transport and Communications.

CENTENNIAL HIGH SCHOOL

"Unirea" High School in Buzărești will soon celebrate its centennial. Anniversary founded in 1899 it was a commercial school until 1924, when it was transformed into a high school. In 1948, it was renamed "Unirea" (Unity) High School and today it is called "Centennial High School". The school has a long and distinguished history, having produced many notable figures in the fields of science, literature, and art.



In Romania, a country with long-standing technical and scientific traditions, the volume of inventions and innovations has been expanded in the context of the development drive sweeping the last two decades. In 1965 the inventiveness indicator amounted to only 7.08. In 1982 it rose to 12.1, while

How could this degree of turning creative intelligence to good account be reached? When were the bases of a policy of inventions laid in Romania and by what means has it been pursued?



In this field, numerous foreign companies had invested in the oil industry, all being one of the country's large pillars of support. Therefore, useful equipment for the development of that sphere was patented. The very patent No. 2, which belonged to Alexandru Heli-diman, described a great-depth drilling technology which was applied at Climpia with good results. The same year, 1906, Gogu Constantinescu, the founder of sonex, advanced two inventions, one of them describing the building of a reservoir for storing crude, gasoline, alcohol and other fluids.

The strong influence of the first law regulating the protection of inventions on Romania's territory proved enormous.

**IF YOU CREATE,
YOU SHALL HAVE**

A Romanian scientist, Otiliu Culcrescu, addressed young inventors in one of his essays as follows: "If you create, you shall have. If you do not create, you shall no longer exist." These brief statements synthesize the whole invention policy and the participation of the specialists in Romania in the last few dec-

A high-contrast, black and white photograph of a modern building's exterior. The image is characterized by strong geometric lines and a grid-like pattern, possibly a facade or a structural element. A prominent curved structure, perhaps a balcony or a part of the building's design, is visible in the upper right. The overall effect is one of architectural complexity and dramatic lighting.

Industry could not have been built are expressed by another indicator: the number of inventions applied. In 1985, the national economy counted 835 inventions. Ten years later, 4,260. In 1987, the figure exceeded 10,000. At present, the Romanian economy benefits by the results of the application of over 11,000 inventions. In 1988 the economies resulting from the application of these inventions stood at 2.7 billion lei.

The average economic effect per invention attests to their great value and high degree of generalization.

In this context, Ion Marinescu, director of the State Office for Inventions and Trademarks, mentioned the changes having occurred in Romania in the invention and innovation activity.

"It is not only the number of inventions but also their economic efficiency that have grown unprecedently. Today there is a branch of Romanian industry which does not rely on original scientific and technical creations developed by Romanian experts. Moreover, the number of inventions for the application of inventions in the national economy grew from 126 in 1961 to 1,900 in 1986.

"Most of them have been applied in chemistry, electrical engineering and electronics. At the same time, the applications of inventions in Romanian inventions has been a positive fact for solving our most acute and various industrial branches."

substances. Here are a few examples: the output of all ferrin-vars, electric motors and electronic equipment, all equipment, construction technologies and installations, cars, trucks, production processes, the new atomic technology, polymers, polyesters, etc. I wish to stress that the degree of complexity of the tasks is increasing. The microprocessors in the large number of patentable inventions we have — about 25,000, All this is a very important factor in the assessment according to which at the end of the present quinquennium (1980—1990) about 95 per cent of the Romanian population will have a car with the highest world technological standards and 2.5—5 per cent of them will exceed these standards. These are quite viable and feasible.

**NATIONAL
PATENT
COLLECTION**

to a new invention will be granted technical, judicial and commercial protection. Should an inventor question the status of his invention, it still means that more than 100,000 men and improved products, new technologies appear in the world every year.

Such an avalanche of novelty must be thoroughly focused, organized. Concern in this respect have existed in Rome since 1870. As early as the setting up of the State Office for Invention, the National Library, the judicial library sheltered over two million descriptions of inventions resulting from examinations with a committee, to which there had been added a technical committee. Over the last few years the National Patent Collection has grown by some 300,000 descriptions annually. Today the collection of the National Library has grown to some 1,500,000 descriptions. These figures, however, are only the tip of the iceberg. We think that the world has

The first invention patented in Romania belonged to captain Ion Constantinescu and was called "Romanian digging machine - Gleter". It was a farm equipment meant for tilling its productivity was, according to the description, of 10 ha per day, the resulting tilling being without clods, thus eliminating the use of harrows. The hoer arms made narrow furrows of 5-6 cm, at a depth of 30 cm. The invention was applied.

The first Romanian invention patented in the world on May 23, 1827 belonged to Petrushe Pognaru. He designed a writing instrument provided with a fountain for ink. The technical principles of this invention anticipated the modern fountain pen. Declared lost since 1889, the drawings of the first patent granted in the world to a Romanian were found after a minute investigation effected by I. M. Stefan.

A high-contrast, black and white photograph of a person wearing a wide-brimmed hat, possibly a cowboy hat. The person is positioned in the center-left of the frame, with their face partially obscured by deep shadows. The hat has a prominent, light-colored band. The background is dark and textured, with some vertical lines suggesting a wall or a doorway. The overall style is grainy and dramatic, with a focus on strong contrasts between light and shadow.

Most descriptions of inventions come from such developed countries as France, West Germany, the USA, the USSR. The documentation included in the National Patents Collection largely reflects the major technological areas in which human

We should also mention that in the Office's library one can consult 39 official bulletins released by similar offices in 39 countries. The Romanian Office in its turn brings out a bulletin facilitating an operational information regarding technical-scientific breakthroughs recorded in the world in 20 districts fields. Also brought out are other specialist publications.

The first gas lasers (helium-neon type) in Romania were produced in 1962 by a collectivity headed by eng. Ion L. Agirbiceanu (1907—1971) a year after the creation of the first laser in the world. The works were conducted at the Institute of Nuclear Physics in Bucharest.

✿ **Honri Coandă (1889–1972)**, a Romanian engineer and scientist, one of the most important pioneers of world aviation, conceived and built in 1910 the first jet propelled airplane in the world. He discovered the effect of deviating a fluid jet penetrating another fluid (effect bearing his name today) based on which he imagined a flight apparatus called "lenticular aerodrome". He introduced, among other things the notion of turbopropeller.

The creator of the science and technique of sonics was a Romanian: George (Gogu) Constantinescu (1881-1965). He invented numerous devices based on the theory of sonics: the sonic generator, sonic engines, etc. He mathematically fundamented and developed hydrosomics, thermosomics, electrosomics, sonostereomechanics.

In 1922 the Romanian physician and physiologist Nicolae Paulescu (1869-1931) received patent no. 6251 for the invention "pancrein and its fabrication method". The results of isolating this hormone (insulin) were published in August 1921 in Archives internationales de physiologie, and are considered today a world first. Ten months later Fr. G. Bantling and Ch. H. Best announced the discovery of insulin. In 1923, the Canadian researchers Bantling and Best won the Nobel Prize for physiology for their contribution to the discovery and preparation of insulin.

The Nobel Prize for physiology and medicine (1911) went to the American cytologist of Romanian origin George Emil Palade (b. 1912). He also improved two research methods applied to cell biology — electronic microscopy and fraction technique.

Even before the coming into force, in 1906, of the first Law of inventions, Romania has conducted a sustained activity in the realm of protecting intellectual and industrial property. In this respect, we should mention some of the bilateral treaties and conventions concluded by the convulsion on the protection of trademarks and trade names, concluded with France on April 11, 1889; the convention on the protection of trademarks and industrial drawings, concluded with Great Britain on May 4, 1892; the convention on the protection of trademarks and trade concluded with Hungary on February 23, 1903; the bilateral conventions concluded with Yugoslavia, on July 1, 1937, with Czechoslovakia, on September 6, 1937, and with the Soviet Union on September 1, 1937, etc.

At present, Romania is a signatory of four multilateral international conventions, treating intellectual property, administered by the International Bureau of the World Intellectual Property Organization (WIPO), the Paris Convention for the Protection of Industrial Property — to which Romania adhered on October 10, 1900; the Convention in which Romania took part from all continents' participation in the Organization Treaty in 1924; the domain of patents treaty signed on January 21, 1909 by Romania, and the Convention signed by Romania, in 1970, the Convention for the setting up of the World Intellectual Property Organization.

Regarding the Diplomatic Conference of July 17, 1957, in which 18 states participated and which resolved the statute of the European Patent Convention, Romania signed the Agreement concerning the international registration of patents of April 14, 1961, with the member countries of the Council of Europe, and the Convention for the protection of the rights of authors of literary, scientific or artistic works, signed in Oslo, Norway, in 1952.

MARIAN CONSTANTINESCU

**A PIONEER
AND THE REASON
OF A LAW**

Romanian captain Ion Constantinescu became famous in the world of science. In 1900, his name came to be related to an extraordinary event. But before explaining the whole story, let us recall that in 1900 the personalities of the scientific world included four Nobel Prize winners: the British physicist Joseph John Thompson; French chemist Henri Moissan; Italian doctor Camillo Golgi and

Synish physician Sankiro Raimondovich Chel. Next to them stood other names: Hinko, famous contributions; in 1906 Albert Einstein explained the photoelectric phenomenon. Labeled "the greatest and remarkable theory based on the quantum theory" that of the specific heat of solid bodies; W. II. Bragg formulated the third principle of quantum mechanics, which later took on the name; E. I. L. Sterling introduced the notion of harmonic; Albrecht W. discovered Radium which was later recognized as the atom; the technology of the nuclear construction; aviation, rocketing, etc.

During the same year several scientists had their names written on the map of the world, and a number of

[illegible]

lone and beneficent. As early as the first year, 1908, more than 700 applications for invention patents from Romanian inventors were registered, as well as more than 450 applications for "invention patents" for "marjary" as 2,327 patent applications were filed during the first five years, therefore, an average of 468 annually. In the 1930-1934 interval, the number of registered applications for invention patents was 1,000-1,300 annually, but most of them came from foreign applicants (German, American, Italy, France) who had become specialists in this line in the Romanian economy.

Parallel to patenting, Romania's industrial development in the 1930's

den. A close look at a recent situation shows that the number of patent applications in the 1980-1985 interval at an average 800 inventions per year were recorded. Between 1986-1993 the average number of applications was 1,200 and annually was 1,600 and now is 2,000 times larger. While the total number of patents is more than 45 million, the total patent applications are 100 million. The ratio of patent to foreign patent is 1:1. The ratio of patent to foreign patent is 1:1. The ratio of patent to foreign patent is 1:1.

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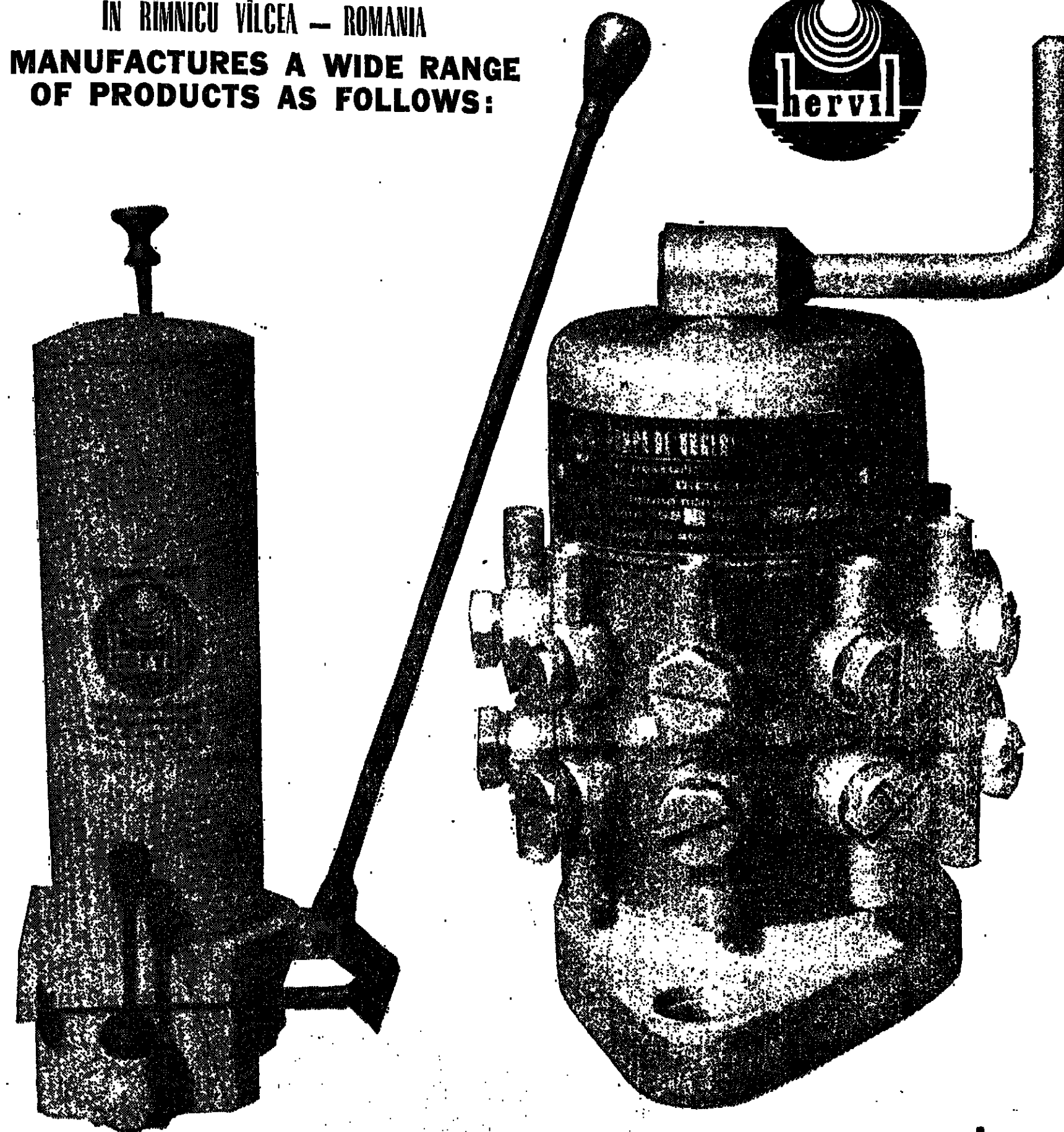
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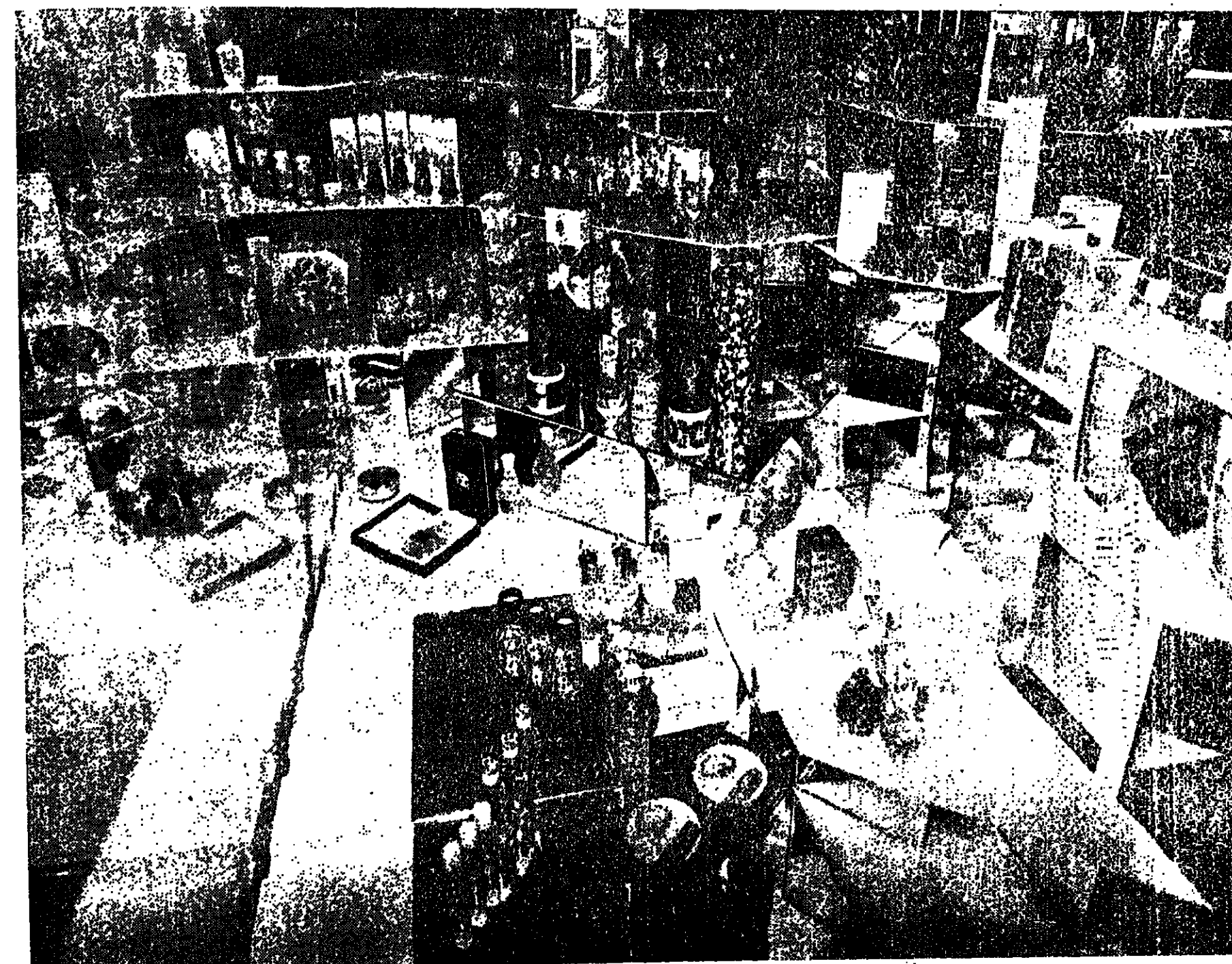
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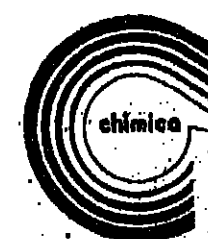
Among the products which are in great demand in the foreign markets we are mentioning: nitrogenous

fertilizer, complex fertilizer (nitrogenous, phosphatic, potassic), writing, printing and newsprint paper, wrapping paper, various paper and cardboard items, original and traditional drugs, cosmetics, varnishes and dyes, dyestuffs and other products.

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- Measuring and control apparatuses, of which ampermetres, voltmeters, wattmeters, electric metres, flow-metres, steam-flow metres, logometres are delivered to Poland, Syria, Iraq, Pakistan, Sudan, the GDR and Czechoslovakia.

- Automation elements, equipment and installations for all the economic and social sectors.

We shall enumerate some subgroups of products: field and panel automation equipment, distribution and control electrical equipment, automated equipment and systems controlling technological processes in all economic branches, transmission and data processing equip-

ment, teletransmission and data processing equipment, machine tools, control equipment, automated testing equipment.

Also on offer are personal installations and equipment as well as turn-key deliveries. Increasing are the deliveries to countries such as the USSR, Egypt, the GDR, Czechoslovakia, Iran, Iraq, Bulgaria.

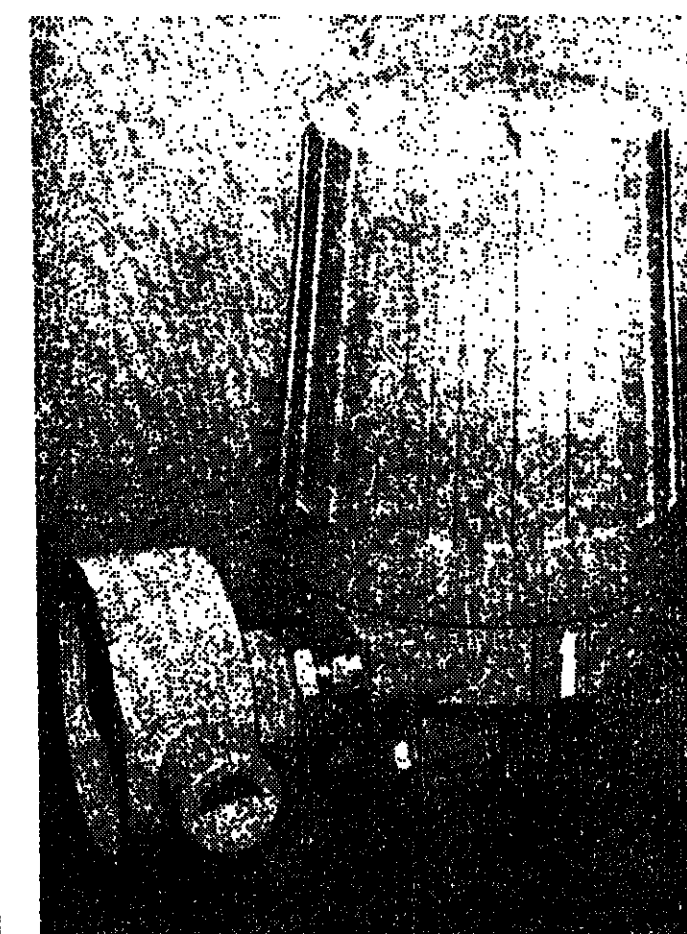
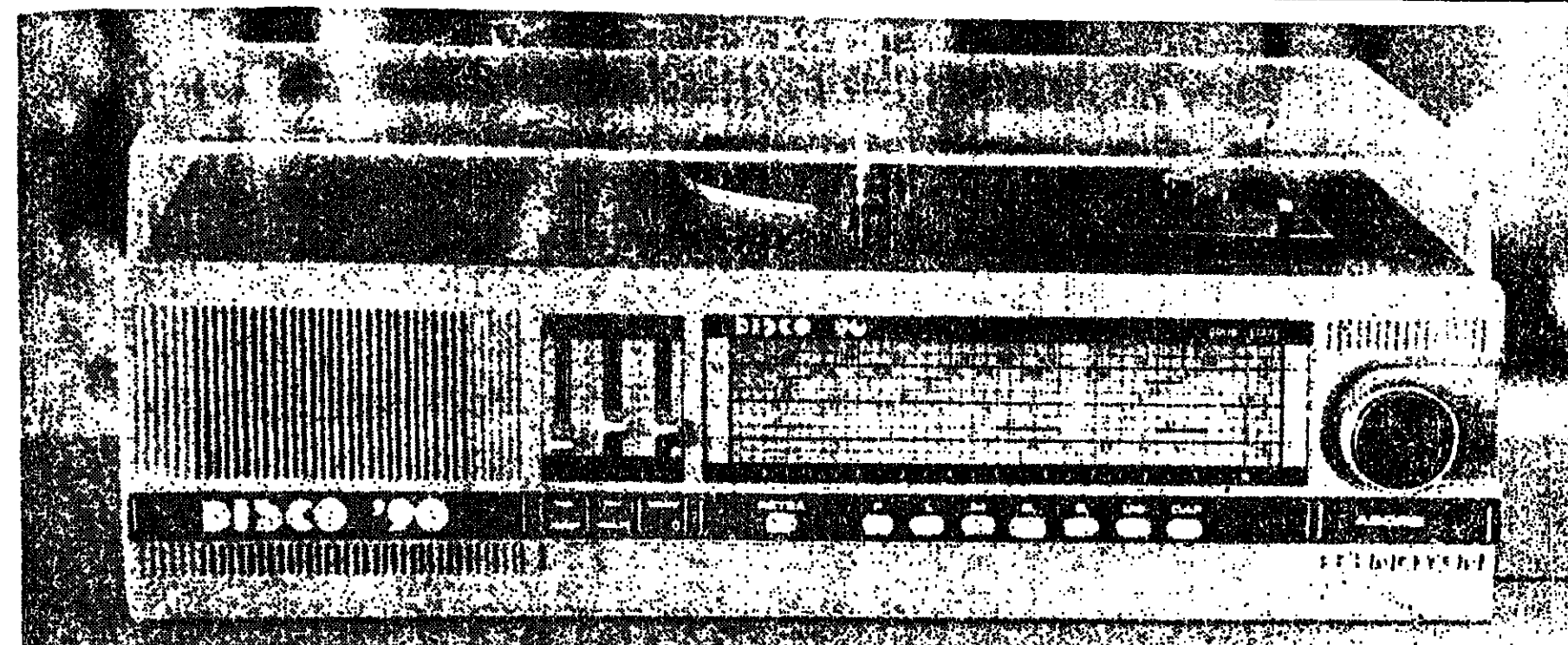
- Computer technology equipment such as: medium-capacity computers, minicomputers, microcomputers, personal computers, graphical systems, invoicing and bookkeeping machines, peripheral equipment. These products are exported to People's China, Czechoslovakia, the USSR, the GDR, Switzerland, Austria, West Germany, the USA.

The electronic components cover a wide range of diodes, transistors, integrated circuits, resistors, condensers, etc and are exported to Bulgaria, Czechoslovakia, the GDR, Poland, France, Italy, the United States etc.

Consumer goods such as radio receivers, radio cassette recorders and tv sets. These products are exported to countries such as West Germany, Britain, the Netherlands, Czechoslovakia, the GDR, the United States.

Also taking place through ICE ELECTRONUM are the export of licences and knowhow, the granting of technical assistance and software.

ELECTRONUM
BUCHAREST - ROMANIA



ICE ELECTRONUM imports a series of equipment, apparatuses, electronic components and various materials for the electronic industry and audio-video consumer goods.

An important partner in the export and import conducted by ICE ELECTRONUM is the Soviet Union.

ICE ELECTRONUM - Bucharest collaborates with the Soviet enterprises V/O ELECTRONORGEHNICA, V/O STANKOIMPORT, V/O MASHPRIBORINTORG, V/O TECHMASHEXPORT, ENERGO MASHEXPORT, V/O TEHNINTORG, V/O

Supplied to the USSR are adjustable drives for machine tools, automatic telephone exchanges, computer technology, while that country exports to Romania electronic components, technological equip-

ment for the electronic industry, computer technology and audio-video consumer goods.

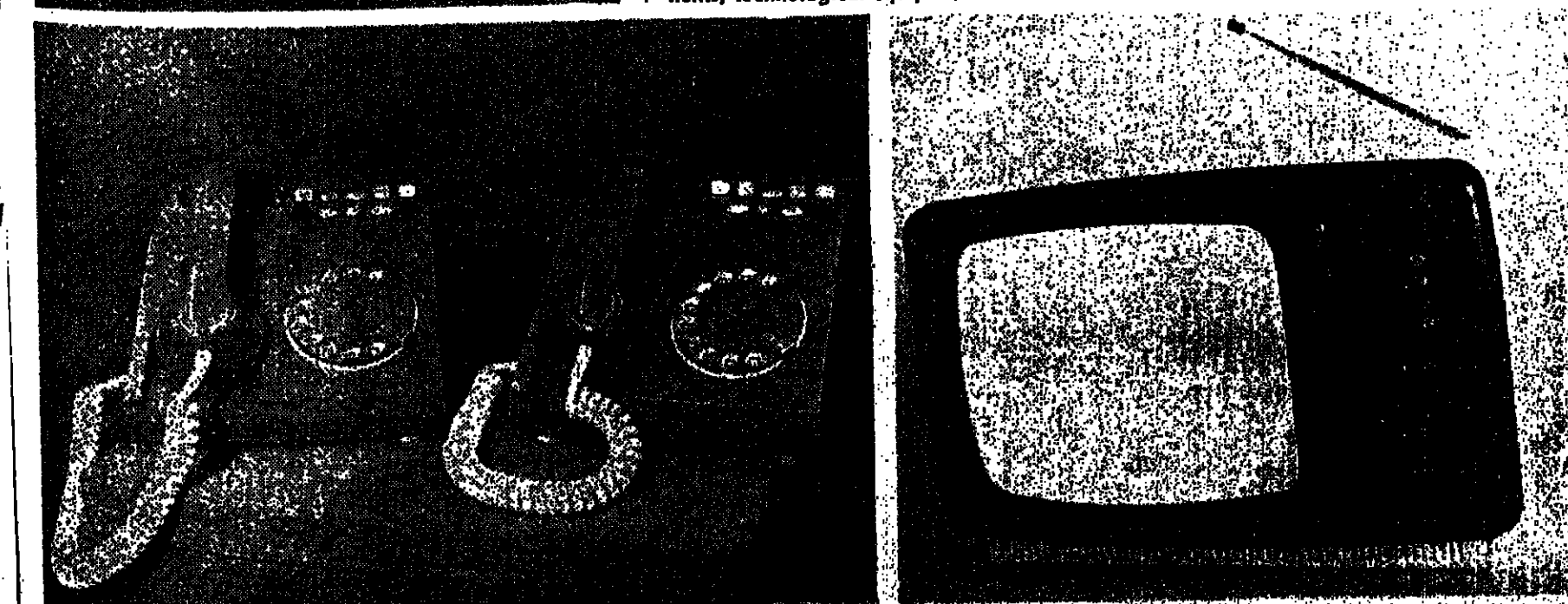
The collaboration with the Soviet foreign trade enterprises also accounts for the cooperation in production, that is Soviet electronic components are used in manufacturing electrical drives, computer technology equipment and automated telephone exchanges to be delivered to the USSR. At the same time very important is the ob-

servance of all delivery dates, especially as concerns the electronic components which are vital to the rhythmic realization of the equipment production plan.

According to annual mutual exchange protocol stipulations, the volume of the exchanges between ELECTRONUM and the Soviet foreign trade enterprises is set to grow every year.

For further information please contact our specialists.

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A VISIT TO THE MUSEUM AT VĂLENII DE MUNTE

The profligacy of certain authors is generally viewed with suspicion. And not without reason either. As is well known, graphomania is inconscient and often worthless. Out of an abundant output few writers are saved by one title or two. That is the rule. But there are exceptions. One of them is Jules Verne. What is amazing is to find a man like Verne, who wrote a whole library by himself, in his lifetime! Not just a few shelves filled with rubbish, with second-rate volumes, but lots of books of the first quality. It is not possible for every angle you may look at it from, is simply miraculous. Man's powers are limited and you find it hard to believe that a fellow being can produce an oeuvre distinguished by its richness, depth, variety and scope over a period of 40 years. But that is what the knowledgeable connoisseurs of

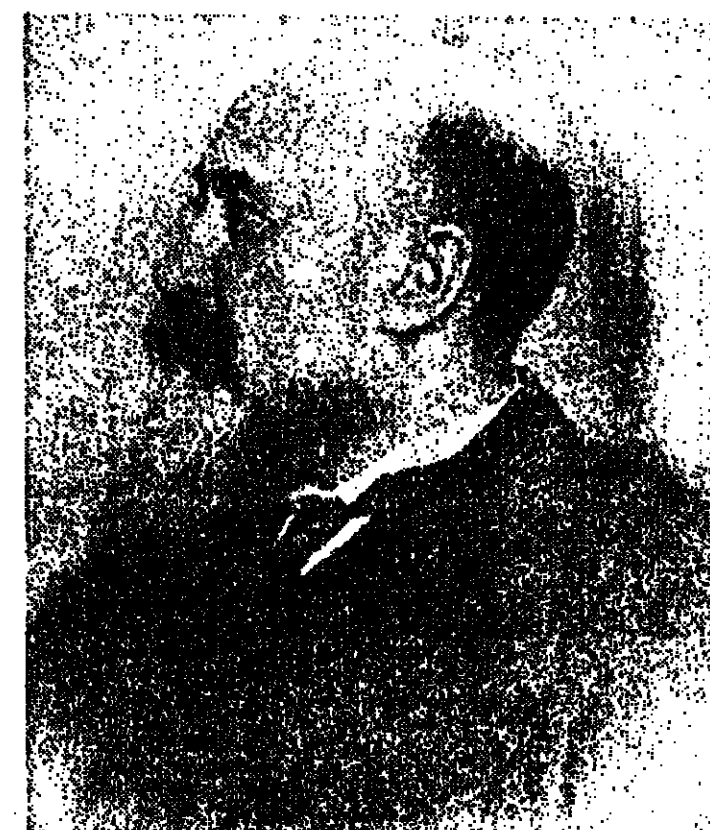
his works apart. Without gratuitously going into eulogy or lament I can only say that I am glad to affirm that whenever I open his books I am struck by the peerless polyhistor I am filled with humility: whence this uncommon passion for work? Where the intellectual versatility, the phenomenal memory, the expansive force, the power of being in the mind of the man of his time? And after all how can a man be at the same time an historian and politician, a writer and journalist of excellence, a vigorous cultural analyst and a guide of consciousness, an astute and elegant dilettante, a soul so fiercely dedicated to his people and his country that he founds a publication, an academical and an esoteric professor: — briefly a personality such as a nation boasts only once or twice in a century?

"A MAN WHO WAS"

I know from experience that an approach to the universe of thought you've made is the only way to go. That is why I have ceased to imagine that going once again to Valeni de Munte I shall find a more direct path to his labyrinthine world of mysteries, of "purity and signs" as a great Romanian poet, Ion Barbu, his contemporary, would put it. I know it, but here I am, going again to that place where he spent the last thirty years of his life. His former house was declared a memorial, and the inauguration took place in No-

A flight of wood stairs lead to the study of the great historian, who was a member of scientific, foreign, academic and scientific societies. I can see a calendar which has an historical significance for the Romanians, opened at November 10, 1930, the day when he had to leave the house because of the earthquake. A few days later, on November 27, the professor was to be shot by Hitler agents in Romania, on the skirt of a forest near Florești town. The horrors of history! Obviously, many of his

belongings were preserved: the furniture, the books, the newspapers, the paper and magazine collections, the paintings, even the pen and inkpot — virtually everything in the mental house, as it were, genuine. Everything in its place; mistaking is only the manner who used to animate the place, ineffectually filling pages with his words and thus making the room also mistaking in his good wife, Ecaterina. In the bedroom, there are family pictures, the embroidered towels and the icons suggest a fruitful protective marriage. The two sawing machines — the schenker and his wife — are the symbol of the sublimation of the house, portraits, works of art, libelous and lithographs, stamps and pain-



tings (two of them authored by our classic painter Nicolae Grigorescu: *Shepherdess with Herd* and *Apple Flowers*) and books, lots of books (could one con-

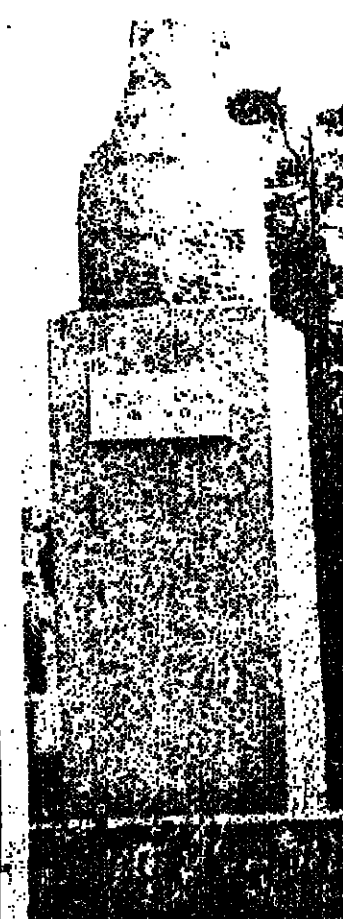
ceive of such a house deprived of book-packed shelves?), period furniture — everything in there to revive a time now part of history.

THE PEERLESS TOILER

A time of patriotic struggles and adventures. A time of arduous dedication and creative sacrifice. A time of energetic unrest, of victories and active feverishness. Iorga, who came to Bucharest in 1894, when he was born in 1871 and whose name is also linked to our national past Mihail Eminescu, made Valente de Munte a focus of his activities. The latter has hosted for some time a famous people's university attended by numerous foreign guests, and a printing house which brought out popular editions of books and periodicals. Thousands of newspaper articles and scores of books were written in this house. Illustrous personalities of the Romanian literary life, both Romanian and foreign, met here. Thanks to Iorga, Valente de Munte became part of history. He lives like no other man in Bucharest through every corner of the Romanian land and authored numerous travel books about the small locality in which he has found a focus of culture and fame.

The scholar's many-sided personality laid its seal on the destiny of the provincial town itself too. The memorial house preserves something of the being of the man who patriotically spent all his energies on behalf of the national destiny. The house at Valsad shows, for the way he was; it shows the profound awareness of the native values, solid with the tradition assumed in its essential data, full of respect for the lofty aspirations after enlightenment and culture. His unbridled energy materialized

zed in the long rows of books authored by him — the peerless toiler —, ordered in his bookcase of Valeri Word; were the weapons he wielded in the fierce struggle waged in defence of his people's dignity, of Romania's history. It was actually with a martyr's belief in the

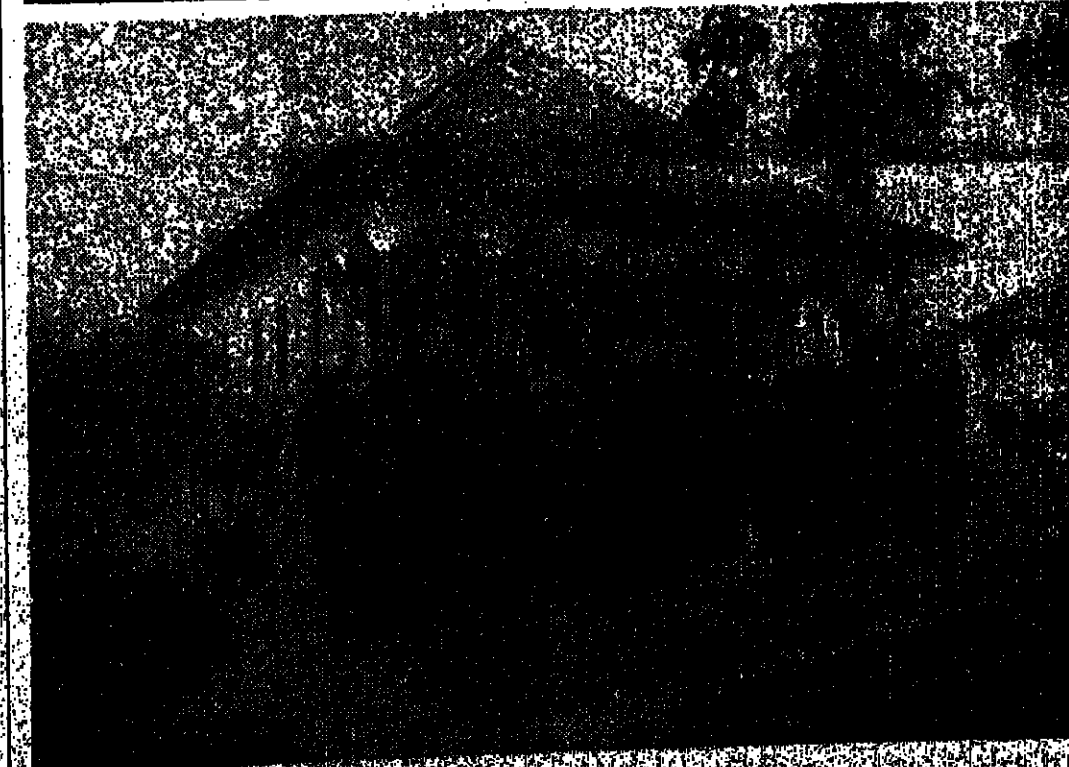


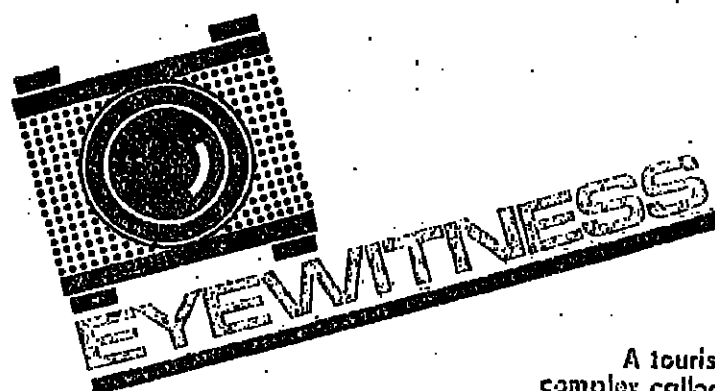
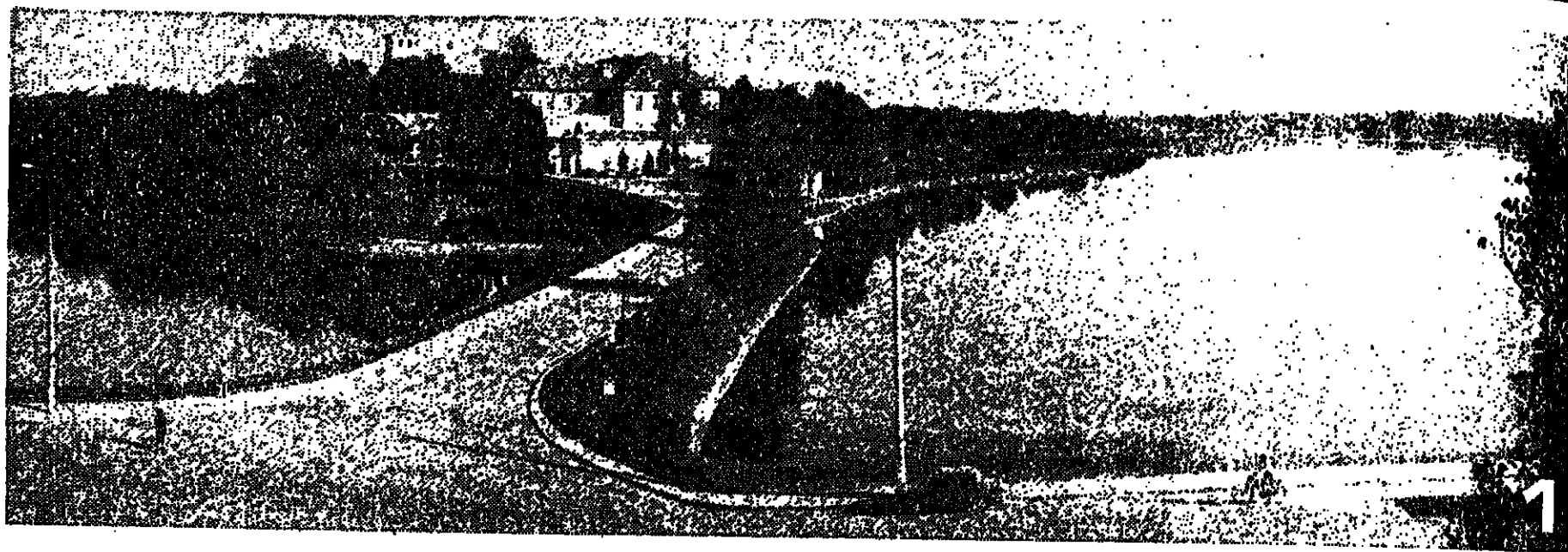
Romanian cause, in the coun-
try's future that he died too.
His great hope in the Roma-
nian's glorious morrow did not
abandon him even in the mo-
ment of death.

[illegible]

venture 1983, in the context of a
 tremendous and significant cul-
 tural opening. The village is not
 not going by carriage, as he did
 the first time, but by train,
 which takes me in about one
 and half hours from Ploiești
 to that city in the Prahova
 Valley. Certainly the old-time
 atmosphere is gone. "The beams
 became, nicely whitewashed
 and covered with some light
 shining" was the common remark
 of Vlănti de Munte half a century
 of a town now. The impact
 of civilization is visible
 also in the architecture but
 in the economy, social struc-
 ture and mentality. The road
 taking me from the railway sta-
 tion to Iorgu's house is obvious-
 ly "longer a 'dusty road' but
 a thoroughfare on which com-
 muter buses, buses and private
 motors push their prams. At
 the end of the street a bust of
 the scholar welcomes me with
 its arms outstretched.
 The building appears somewhat from
 the side of the crossroad. Damaged
 by the 1977 earthquake, the
 house went through some re-
 pairs. It still preserves its
 original shape, but the old
 architecture. The front por-
 ches are filled into massive sculpted
 wood arches. A wide veranda
 with a wooden railing, and
 the weathered wooden frame
 know it from sculpture. The
 porch, in keeping with tradi-
 tion, the twelve wood pillars (the
 sculpted capitals, recalling
 Transylvanian wood, suggest a re-
 self-actualized cell.
 The main building
 is made of stone, built
 in the 18th century. The

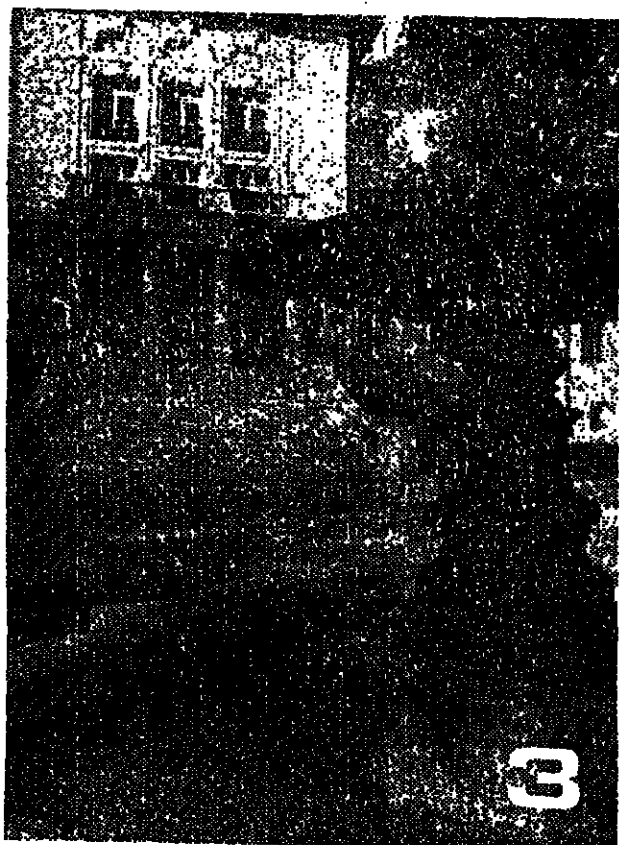
Photos: top right — portrait of the great scholar Nicolae Iorga; above — view of a room in the museum-house at Vălenii de Munte; below — the Nicolae Iorga memorial house, which, through the scholar's tireless efforts, became a true cultural establishment; far right — the historian's bust before the entrance.





A tourist complex called Lebada has recently been opened at Bucharest's gateway leading to the Black Sea coast, on Pantellion island. After several years of hard work, architects and builders created an architectural unique putting to advantage the remarkable natural setting and enriching the dowry of Bucharest tourism, a major tourist and urban landmark in Romania's modern capital city.

- 1 Pantellion island hosting Lebada tourist complex, the lake and the new highway leading to the Black Sea shore. In summer, water sports can be practiced on the lake.
- 2 From the high tower, a wonderful panorama of the island and of Bucharest opens before one's eyes. The tower has been scrupulously and accurately restored, just like all historical vestiges on the island.
- 3 This unique fountain seems to have always stood here, in front of the central building of the complex. Actually, at a suggestion of the Bucharest Municipality History Museum, it was brought here from an area subject to territory planning and restored with the help of experts of the Fine Artists' Association.
- 4 Staircase in the lobby leading to the restaurant of the complex. The construction materials used and the quality of execution avoided the depersonalization specific to modern, industrially built hotels.



- 5 Elegance and refinement characterize the interior decoration of the restaurant's several saloons.
 - 6 Living-room in the hotel's suite. The complex provides 250 accommodations in one- and two-bed rooms and in a suite, all of them fitted with telephones and closed-circuit tv.
- The rooms display a wide variety of interior decoration formulas. The carpentry, furniture and carpets were manufactured by handcraft cooperatives in the country, according to models specially conceived for the complex by the authors of its design.
- The Hotels and Restaurants Tourism Enterprise in Bucharest, the author and end user of the investment, headed by director general Gheorghe Popa and deputy director Constantin Donescu, enriched the tourist base of the capital with this exceptional unit.

R. MIRCEA
Photos: M. HUREK



CLASSIFICATIONS

- Romanian Daniela Silivaş — declared, as we informed you in our last issue, the world's best woman gymnast by the International Federation — was also declared the best sportswoman in the Balkans, in the wake of a poll conducted by the BTA news agency, which took into consideration all sports disciplines.
- Five Romanian sportswomen are rated among the world's top ten swimmers of 1983 by the Sport Echo newspaper in Berlin. The standings also include Ana Maria Fălcăuş who holds Olympic silver medallist Noemi Lung is second in the 400 m medley (with a time of 4:30"18/100) and third in the 200 m medley (with 2:11"53/100). Tamara Costăchio ranks fourth in the 800 m freestyle (21"50/100). Also fourth is Răzvan Păun in the 200 m butterfly (2:00"73/100). The standings also include Ana Maria Fălcăuş who holds the seventh spot in the 100 m backstroke (1'02"35/100) and ninth-placed Livia Copariu in the 100 m freestyle (35"30/100).

FOOTBALL ROUNDUP

The first half of the national A division football championship has wound up. Dinamo Bucharest lead the autumn season standings with 33 points from 17 games (just one draw with runners-up Steaua Bucharest) and an exceptional goal average: 72-18. Steaua are level on points with Dinamo but they have only scored 62 goals and conceded 15. The goal-scoring effectiveness of these two teams' players was confirmed in the last two rounds when Dinamo inflicted a 7-1 away defeat on Farul Constanta and went on to beat Otelul Galati 6-3 at home, while Steaua thrashed Corvinul Hunedoara 11-0 at home, and won 8-1 their away match against ASA Targu Mures. Another Bucharest club, Victoria, are third in the table with 23 points.

Therefore the top three places are held by the three teams who qualified for the quarter-finals of the European football club competition, which means that their domestic performance is matched by excellent results in Europe. As a matter of fact,

this is the first time ever when three Romanian teams qualify for the spring season of the three major European club competitions, a record which is not easy to attain. It should be mentioned that only 24 teams from 13 countries have remained in the hunt for the three European club trophies. The largest number of teams come from Italy and West Germany — four each, followed by Romania and Spain, with three each. Two teams are from the Netherlands while the others are from Belgium, Bulgaria, Denmark, France, the GDR, Scotland, Sweden, Turkey (one each). The third place shared by Romania in this classification is more than honourable.

But let us take account of something else, too. Romania enlisted four teams in the European soccer club tournaments: Steaua, Dinamo, Victoria and Otelul Galati, of which three managed to qualify for the quarter-finals. Therefore a qualifying rate of 75 per cent. (Dropped out in the first round of the UEFA Cup, Otelul Galati can console themselves with the thought of having inflicted a defeat upon Juventus of Turin, the only team which won all the three European trophies along the years). The Italians register a qualifying rate of 66.6 per cent (four teams out of six) and they are followed by the Spaniards with 60 per cent (three out of five). Lower in the standings are West Germany with 57 per cent, the Netherlands with 50 per cent, Denmark and Turkey with 33 per cent, France, the GDR and Bulgaria with 25 per

cent, Scotland and Sweden with 20 per cent, Belgium with 16.6 per cent. Two soccer "powers" — the USSR and Portugal — failed to reach the quarter final stage of any of the three tournaments.

The qualification of Victoria lifted Romania from 12th to ninth place in UEFA's official standings which is into consideration the results scored by each country over the last five years in the European cups.

The remarkable shape of the Romanian club teams in their international play-offs was doubled by the excellent performance of the national squad in the World Cup qualifying matches. Romania won two victories in as many games, defeating Bulgaria 2-1 at Sofia (later on Bulgaria managed to force a tense 1-1 away draw against Denmark) and Greece 2-0, in Bucharest.

The evolution of the Romanian squad and club teams struck a resounding echo. Let us mention only that the Italian Gazzetta dello Sport made up the 1983 European soccer team including players registered with foreign clubs. Featuring among the 11 players are two Romanians: Matei and Hagi. As a matter of fact Matei (from Dinamo), who is probably the best Romanian player in the autumn season, heads the goalkeeper's chart with 20 goals, followed by Hagi (Steaua) with 19 goals. Coras (Victoria) also holds 20 goals. Three players from the three club teams qualified for the higher stages of the European cups. Could it be a coincidence?



A GREAT VICTORY

Romania beat Wales 15-0 in their rugby union international at Arms Park in Cardiff on Saturday, December 10. It was a splendid win, the first away win ever claimed by the Romanians against one of the great powers of world rugby union, the bronze medallists of the 1981 world championships and joint winners (with France) of the Five Nations Tournament.

The Romanian players dominated the game from the outset and moved ahead in the 13th minute when Ioni scored from a penalty kick. Six minutes later Gh. Ion ended a team effort with a try which was converted by the same Ioni. In the 34th minute the Welsh made it 3-3 through a Thorburn penalty, which was the halftime score.

Shortly after the interval, the hosts equalized through Devereaux's try, converted by Thorburn. The Welshmen began to attack in waves but the Romanians gradually moved the

game into the opponents' half with Ioni scoring two penalties in the 57th and 62nd minutes. The score was 15-3 for Romania and it remained so until the final whistle. Commentator Clem Thomas wrote in Sunday Observer that Romania's victory had been considered by many as almost impossible, (taking into account the Romanian rugby players' prolonged lack of form). But now that moment has been overcome and, as Jonathan Davies, the Welsh captain said, the Romanians lived up to the shape which saw them into the world of great rugby union, putting all their heart into the game most probably aspiring after loftier ideals. An idea shared by Glyn Hoddericks, a connoisseur of Romanian rugby union, who declared that a new Romanian team was born at Arms Park showing it was a power of world rugby union.

EUROPEAN COMPETITIONS

HANDBALL. The six Romanian teams competing for the European handball club trophies (men and women) won the games they played last weekend. The most glorious victories were scored by the women's teams: in the European Champions' Cup, Muresul Targu Mures defeated Arcelik S.K. Istanbul 37-3 at home; in the Cupwinners Cup, Silius Basku managed a 38-18 away win against Izmir Belediyesi of Turkey. In the men's side of the competition, the best result was registered by Steaua Bucharest, 25-21 away winners against I. F. Kolding (Denmark). In the European Champions Cup, the other Romanian teams, playing at home, scored the following results: in the Cupwinners Cup, Dinamo Bucharest 22-17 TSKA Moscow 17; in the IHF Cup, B.C. Mladá Boleslav 33-29 Haimarjardar (Iceland) 31, and Polihallene Thurgau 31-29 St. Gallen (Switzerland) 19.

VOLLEYBALL. The Universitatea Cluj Cluj women's volleyball team, Romania's champions, went through the second round of the European Champions' Cup, with a triumphal 3-0 win over Post S. V. Vienna, in the second leg. Steaua Bucharest, Romania's men's volleyball champions, lost their game against Hapoel Be'er Sheva (Israel) 3-1, thus qualifying for the semifinal round of the European Champions' Cup.



PHILOSOPHY AND SCIENCE

We live in an age when scientists often "escape" from their strictly specialized fields, with surprising profitable results in other related domains or in apparent contradiction with their training. Today we cannot conceive an in-depth research of phenomena just through a vertical, narrow investigation lacking comprehension or prospects in a domain of science. A proof of that are the collectivities organized on multidisciplinary criteria. Everything is studied in relations of interdependence with close or contrasting phenomena, in compulsory connections imposed by experience. In the interview published on this page we follow the destiny of such a plurivalent destiny in science.

PEOPLE & IDEAS

Professor dr. Sorin Comorosan is a graduate of the Faculty of Medicine in Bucharest. But his options directed him toward physics research, which made him return to studying for a new university attestation — the diploma of the Chemistry-Physics Faculty in Cluj-Napoca. Now he is the head of an interdisciplinary research collectively at Fundeni Hospital in Bucharest and enjoys world renown as the author of an article bearing his name. The activity of teacher and researcher also recommended him as visiting professor at the University of California, in Berkeley, at the University of Miami, Florida, as scientific collaborator at the Nuclear Physics Centre of Buenos Aires University and research consulting director of the Interdisciplinary Technology Company, San Francisco, California.

"Paradoxically," I said, "Professor Sorin Comorosan is known to the Romanian public especially as an author of esoteric and philosophy studies and to a less extent, for his merits recommending him as a scientist of world renown, as the discoverer of a phenomenon bearing his name. I found out, at the same time, that in your relations with the press you engage with pleasure in a dialogue about questions of life, but become more reserved when someone enters your physics and biology lab. Let us therefore remain in the strict domain of esotericism about art and philosophy."

"I shall begin with an observation: you used a stratagem without knowing that it belonged to my sentimental diary. Years ago, in Buenos Aires, I addressed in a stroll way the famous writer Luis Jorge Borges, who was inaccessible beyond the circle of friends assuring him that I asked just an exchange of opinions on life questions. That was enough to render his tone pleasant and receive his unreserved approval."

"We owe our readers an explanation, at least in the beginning. We are talking about professor Sorin Comorosan's less common professional vocation. After completing medicine and biology studies, you chose physics researches. Out of these two disciplines was born a

constant and lasting meditation on philosophy topics. What potential resources determined such a winding evolution?"

"Getting out of the system (the expression belongs to Constantin Noie) was for me an older preoccupation. It isn't simple and easy to leave a secure area for one where you can be accused of naïveté and dilettantism. But naïveté is an ingredient of creation. Getting out of the system took place as a result of scientific frustrations. When my works devoted to the interaction between visible light and various chemical molecules entered an experimental dilemma, I had five extremely unproductive years. I understood that I could cross this "desert" if I did not try something else. Then I started to meditate on science as science, not through the narrow lenses of biophysics and biochemistry I had had exclusively in view."

"In one of your essays, you talk about an older passion for humanities questions."

"The essays you refer to represent the amount of my deep frustrations of not becoming an artist, as well as the amount of my deep antipathies of continuously trying to become a scientist."

"Present science pretends that inventions and discoveries have become just a matter of time, organization and money."

"One also needs luck."

"You certainly think of those events that are not accidental, therefore the luck useful only to well trained spirits."

"No, so I have in view just luck. For example, I consider myself a lucky man. In my scientific activity I met, by chance, a very exotic phenomenon concerning the interaction between light and matter. From the irradiation spectrum we have at our disposal, I chose, based on a model, the first frequency (the green light) and I had the chance to find the one which led to completely unexpected results. In my life, luck and naïveté played a fundamental part. Being naïve, I have often made mistakes, but quieting Bohr, I was not afraid of being ridiculous. Of the amount of mistakes made, a new phenomenonology of the interaction between light and matter came

out, independently reproduced in labs abroad."

"Those who appreciate and admire your works have different opinions."

"I know myself better. I am not a genius, just a lucky man, although I wish it were the other way round. In defining my scientific and intellectual profile, luck made me contact first rank scientific personalities. Here I'd like to mention that fame and recognition are not always directly proportional with the depth of the work. Einstein elaborated his famous theory after having gathered many previous data. And Poincaré was close to it, but he lacked the necessary intuition to connect the invariance he had discovered to the structure of the electromagnetic field. For Einstein the concept of time fertilized the contemporary imagination, but he made a fundamental mistake, by not considering the probable characters of quantum mechanics. Bohr still receives many surprises."

"Which personalities of today's world have marked your activity and intellectual opinions?"

"I shall mention Szent-Györgyi, the discoverer of vitamin C, whom I met at the quantum mechanics seminars in Florida. Hans Selye, the creator of the stress concept, whose nonconformist style inspired me, and Q. N. Yang, who discovered the violation of parity in theoretical physics, and who revealed to me an unknown aspect of my experimental results. But the man of whom I have the most sensitive memories, besides Borges, remains Constantin Noie."

"How did you meet Noie?"

"In the same way as I met Borgesen. I did not notify him about my visit. I simply called on him at Păltin, asking him to let me into the universe of his meditation. The dialogue I had with the humble Romanian philosopher in the last years of his life were to me an overwhelming experience. Without Noie I should never have felt tempted to suggest a general model of integration of spiritual human activity, and my essays would naturally have looked different. Like any human being, Noie was a bagful of contradictions. During his last years he made many errors and divergences. But from our profound friendship I understood the intellectual respect for man, and it was also he who guided me into my attempts to link science to humanistic disciplines. Also from Noie I learned that profound and honest intellectual activity leads to serenity. Whenever I feel irritated, frustrated and uninspired I ask myself how he would have reacted in my place. And it was also from him that I learned the concept of competition on a strictly cultural level, understood as an incentive and a discipline and freed from all social connotations. As I worked a lot on American campuses, this European-type "philosophical structure" helped me create a style of my own, independent of the oppressive scientific competition nowadays, characterized by the

IN VITRO COFFEE PLANTATIONS

● Researchers at the Bucharest Institute of Biological Sciences have cultivated in vitro tissues extracted from the leaves, stalks and immature grains of the coffee plant in special culture media and developed a cell mass which, when dried, roasted and ground, has the same caffeine content and taste as the coffee classically obtained from green coffee beans. In the countries whose climate is unfavourable to coffee plantations this technology becomes important because it ensures an unlimited production of coffee "harvested" in laboratory and subsequently in industrial conditions.

SPECIALIZED MICROORGANISMS

● After several years of selections and experiments, the Romanian specialists have developed 20 populations of microorganisms highly qualified for producing methane. Their efficiency is as high as 100 per cent and their activity does not decrease in time. After the current laboratory pilot phase of establishing the optimum production parameters in the anaerobic bioreactor, the microorganisms which best metabolize carbon dioxide and hydrogen will soon enter the industrial phase.

COMPUTER GAMES

● The first Romanian cassette with electronic games on monitor has already been put on sale. The 10-18 Victor Road JECO shop in Bucharest makes demonstrations and sells computer games cassettes. An outcome of the researches made by the Institute of Computer Technology and Informatics in collaboration with the Industrial Central of Electronics and Computer Technology, the first lots of computers and monitors will be tested and introduced.

celebrated adage: "publish or perish". I have published quite a lot but I have succeeded in surviving scarcely."

"Your philosophical meditations represent you in a new intellectual position, but they have secured you a distinct place in the consciousness of your compatriots. What does your concept of "metaphysics" essentially propose (if one may essentialize a philosophical concept in the limited space of a magazine article)?"

"Indeed, you ask for the impossible. Philosophical writings or interpretations are part of the biographies of many scientists in the world today, especially those of physicists, biologists and mathematicians. With most of them, philosophical meditation appears as a derivative of their investigations in their respective fields of knowledge. I have tried to make the philosophy of science a complex creation in the same stage of equivalence as art criticism. It is, if I may say so, a Noie-Lyso reversal which, by shifting some well-established relations, aims to throw new light on truth. This path has been used to reveal a general model of integrating the human traits of science, philosophy, art and literature."

"What is the present-day role of science in the development of philosophical meditation?"

"The real has become a commodity no one is interested in any longer. Not even philosophers. Plenty does not generate questions. It is just consumed. It is only the physicists that

still have the obstinacy of the initiations, they keep digging at the base of "the house we live in", looking for its foundation. From the very beginning man wondered at the way things are set and thought of a cosmology. He conceived it as early as the prephilosophical period, with Hesiod and his theology. We continue to conceive it in sophisticated mathematical models of the expanding or pulsating universe, or in multiple parallel or intricate forms."

"Our talk is drawing to an end and therefore it is time for my stratagem to yield fruit. I should like you, even though you may find this task disagreeable, to describe in a few words the "Comorosan effect", known as such in all the scientific circles of the world."

"I worked out the experimental model setting out from the idea that biological macromolecules can be analogized to the physicist's measuring instruments. Obviously, testing does not yet best an apparatus equalling the sophistication of an enzyme in this respect. Consequently I irradiated the substrate of an enzyme measured (the effect of that is measurable) with a "possible" irradiation, which should have had no effect in the classical context but which, in the model, would have produced the enzyme would react. I called that model "biological spectroscopy" and following the revelation of an effect of that irradiation detected through macromolecules in the 1072-1100 interval. I made a name for myself, so to say. Although the experimental result has thoroughly been demonstrated since, the premises I started from was false. I regarded the phenomenon as a property of biology (therefore of the enzyme) and it proved to be the physics (of the irradiation effect) as the professor Leclercq, an expert in the domain of Buenos Aires and professor Peschel from the University of Essen, subsequently demonstrated. They managed to highlight this effect without enzymes, on purely chemical systems. Naturally, the discovery needs a theoretical foundation."

"I suggest we end our talk here. Shall we attempt a conclusion?"

"We'd better leave this difficult and unpleasant endeavor to others."

"Well, then I'll try to answer Professor Sorin Comorosan's work in one of the most important and original ways. In Romanian science and culture, Sorin Comorosan will remain a scientific personality, and, by the way, a very original one. He will be remembered for his discovery of the "Comorosan effect", a discovery which, though it has been proven false, has opened a new path in the development of science and philosophy. His work is a testament to the power of the human mind to create new ideas and to the importance of interdisciplinary research in the advancement of knowledge."

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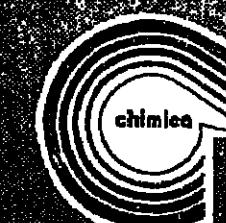
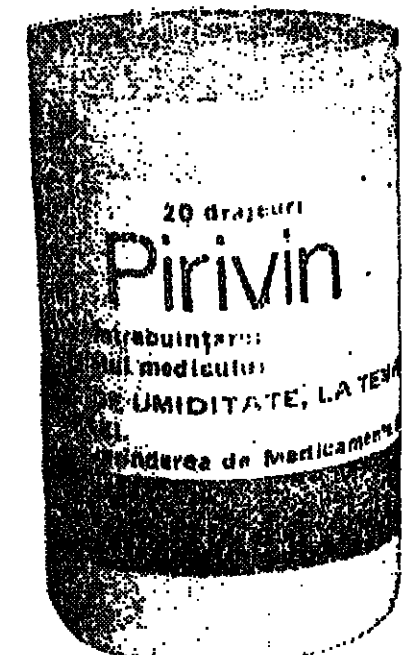
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● PIRACETAM improves the cerebral biochemical processes which underlie cognitive activities (memorization, the elaboration of underlie cognitive activities (memorization, the elaboration of conditioned behaviour etc.) while enhancing the brain's resistance to various aggressions (acute food poisonings, hypoxias, electric or thermal shocks, traumatism etc.). It has no central sedative or stimulative activity, does not work on the vegetative nervous system, is devoid of toxicity and has no contraindications.

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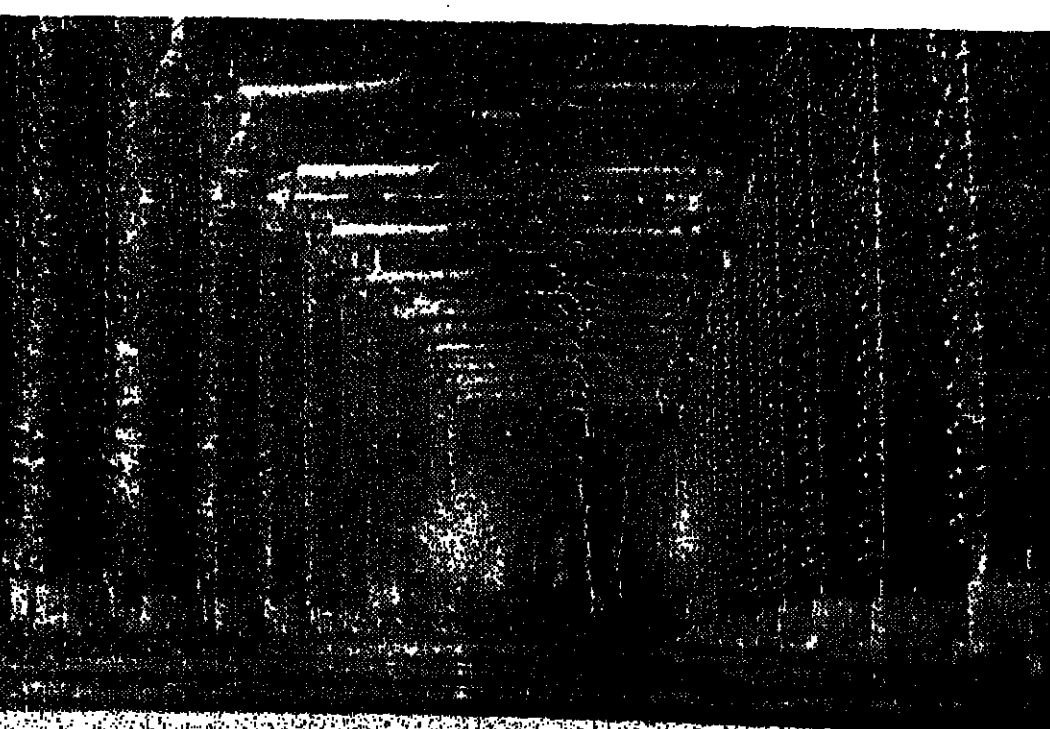
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THE ELECTROPUTERE

enterprise of Craiova, the seat of Dol county, manufactures all the equipment installed in Romania for the transport and distribution of electricity, as well as the whole park of electric and Diesel-electric locomotives for the Romanian Railways. Here are produced all power transformers with powers ranging between 25 and 2,000 kva and tensions up to 30 kV, high tension asynchronous motors with protection for the most diverse environments, meant for agriculture, the steel industry, metallurgy, mining, the whole range of medium and high-voltage apparatus up to 400 kV, dry transformers and complete transformer stations, 110 kV electric locomotives and Diesel electric locomotives ranging between 1,000 and 2,100 hp.

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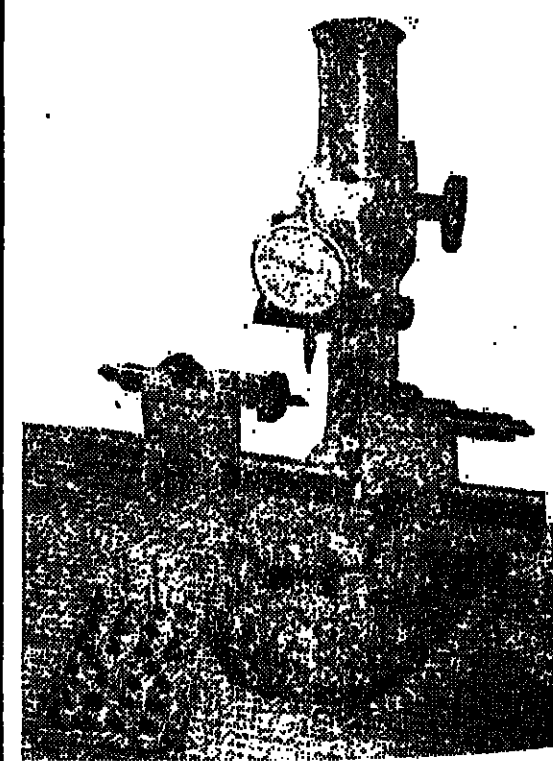
— special tools (diamond and sinter-carbide metal tools), holders, high-accuracy and fineness devices and dies, having a high degree of productivity and durability.



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● dial gauges ● bore dial gauges ● gear measuring instruments; ● threaded conic gauges for the oil industry.

● circular dial snap gauges ● gear pitch-error and gear-tooth-thickness measuring instruments ● reading ball-gauges; optical read-out devices and rules.

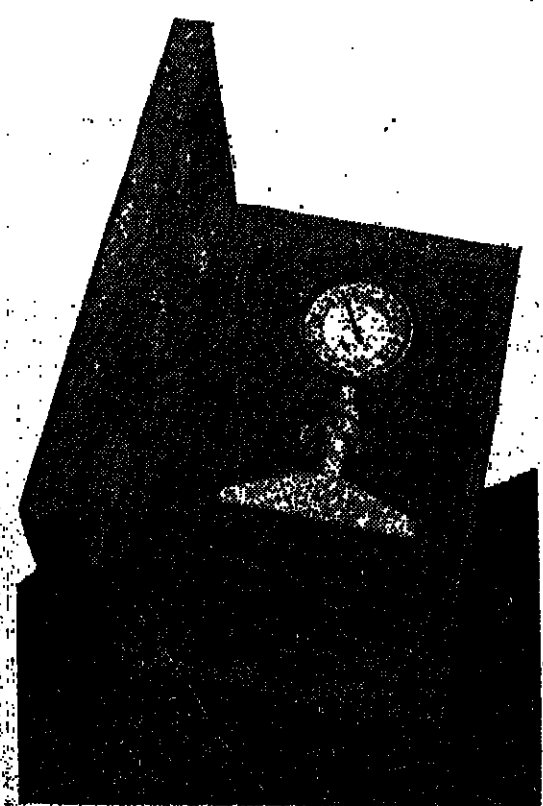


IN- AND POST-PROCESS SIZING GAUGES

● They are built according to modern principles, with pneumatic inductive, piezoelectric transducers, whose signals are processed and displayed analogically or numerically in modular-type electronic units:

● pneumatic post-process sizing gauge — SUPERJET ● pneumo-electric post-process sizing gauge — ELSUPERJET ● post-process sizing gauge with electric contacts ● inductive electronic post-process sizing gauge ● roughness measuring post-process sizing gauge; smoothness measuring gauge (electronic levels).

● in-process sizing gauge for continuous exterior cylinder surfaces with one and two measuring points ● for continuous exterior surfaces and for continuous interior cylinder surfaces with two measuring points ● in-process sizing gauge for centreless grinding machines ● in-process sizing gauge for exterior diameters of narrow surfaces ● copying systems mounted on machine tools for processing through copying after a pattern.



AUTOMATION ELEMENTS AND MECHANISMS

● Programmers ● electromechanical impulse counters ● programme control for automatic washing machines ● discharge counters with oval wheels ● electromechanical tachographs for motor vehicles ● complex speed measuring installations for locomotives and subways.

FOR PRESSURE INDUSTRIAL CLOCK-TYPE APPARATUS, INSTALLATIONS AND TEMPERATURE CONTROL

This apparatus family includes pressure switches and thermostats. They are indispensable in the automation of starting and stopping installations using fluids whose temperature and pressure must be maintained within certain preadjusted limits. Pressure switches and thermostats are made by the Fine Mechanics Enterprise in a wide variety according to the pressure and type of media they are mounted on, and the conditions of the environment.

REMEMBER THE



IMF TRADEMARK



SINTER-CARBIDE METAL PRODUCTS

The main groups of products bearing the "CARME-SIN" mark — which are the object of the Bucharest Fine Mechanics Enterprise's production programme — are the following: sinter-carbide metal brazable tips and inserts for metal cutting; sinter-carbide metal inserts for mining tools; sinter-carbide metal inserts specific to the wood industry, building materials and extraction industry; products for drilling installations; dies for screws and nuts; dies for roll bearings; other types of products upon the foreign partners' demand.

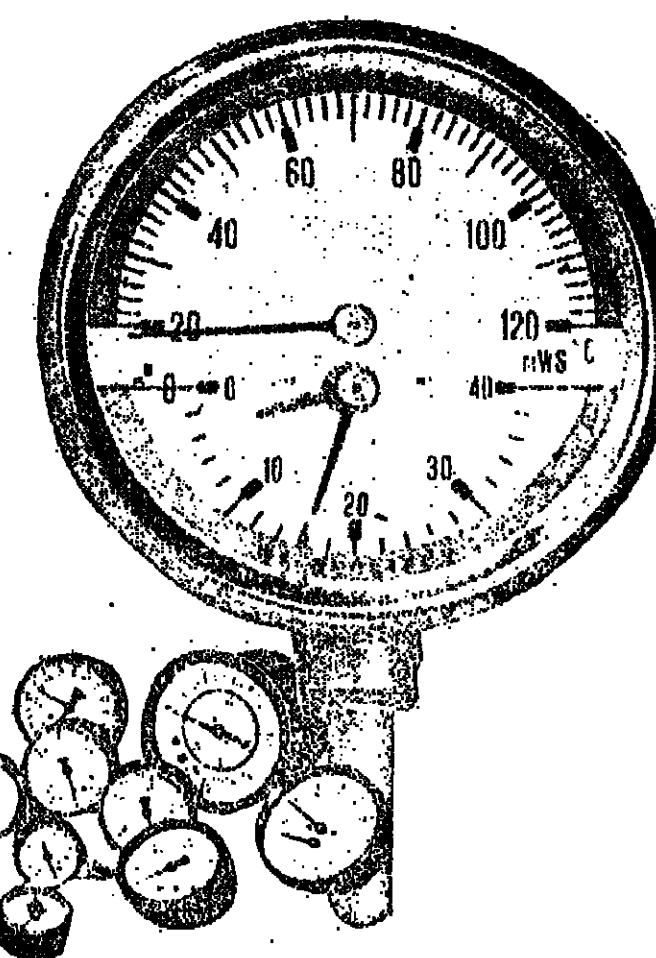
According to the concrete destination indicated by the end user, these products are executed out of the PKMG groups of carbide metal powder, after ISO international standards or according to other requirements specified in the order.

In order to increase the durability and performances of the sinter-carbide metal inserts, the method is applied of coating them with extra-hard layers of titanium carbide, giving the inserts an increased durability of up to 300 percent, as compared to the normal execution.



PRESSURE GAUGES

Through the great diversity resulting from constructive variants based on measuring limits, accuracy, diameter, connection and scale type, the Fine Mechanics Enterprise can satisfy the most exigent demands of its clients (standard pressure gauges or of special construction, upon demand). There are: ● general use industrial manometers ● vibration-proof manometers ● corrosion-proof manometers ● capsule-manometers ● double indication manometers ● manometers-thermometers.



DIAMOND TOOLS

The processing of ferrous and non-ferrous metals, of sinter-carbide metal, stone, concrete, ceramic and glass — through modern methods — calls for the use of diamond tools on an ever larger scale.

The manufacturing programme of this kind of tools is achieved at IMF on the basis of the licence purchased from WINTER firm of West Germany and is currently in full swing as a result of the growing demand. It comprises the following more important groups:

— diamond mills with metallic or resin-

ous binder of various shapes and sizes, with cubic boron nitride.

— diamond tools for construction-material processing

— diamond tools with galvanic binder

— honing diamond blades

— diamond pastes

— diamond tools for trimming and shaping abrasive stones

— chamfering tools with extra-hard materials from diamond polycrystals or cubic boron nitride

— diamond drawing dies.

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